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ORIGINAL ARTICLES.

NEWER CONCEPTIONS AS TO THE CAUSES OF GASTRIC ULCER.*

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To those of us who have studied and practiced medicine for a period of twenty-five or thirty years it is apparent that the former conceptions as to what constitute the causes of gastric ulcer have undergone a radical change. The mechanical traumatic theory then predominated and was generally accepted. Repeated trauma to the upper abdomen, such as can be produced by a persistent pressure of corsets, tight skirt bands, the wearing of leather abdominal belts, the pommel of a saddle in horsemen, bentover posture of tailors, cobblers, and seamstresses, vocational pressure as the use of the bit by carpenters, the pressure of an enlarged liver or of gallstones seemed sufficient cause for the development of this well known affection. It is remarkable how little of this sort of reasoning can be found in present day dissertations on the etiology of gastric ulcer.

The subject is now treated from entirely different view points. It cannot even now be said that the etiology of gastric and duodenal ulcers, as they exist clinically, has been satisfactorily established in all particulars. New facts in physiology and in anatomy as well as extensive experimental research in animals and in man have forced us to study the problem as to the causes of gastric ulcer from entirely new aspects.

The theory of trauma has been superceded by the teaching of the deleterious effect of hyperacidity on the stomach wall, by that of the selective action of bacteria in locating in the gastric mucous membrane, and of late the theory of the neurogenetic origin of gastric ulcer has aroused considerable discussion and no end of experimental investigation.

*Read before the State Medical Society of Wisconsin, Milwaukee, Sept. 8, 1921.

It is a well known fact that the majority of stomach disturbances, (numerically speaking), are matters but rarely of its own concern, are but seldom initiated by its own exclusive pathology, are hardly ever of purely gastric origin. More often they do but reflect disturbances in other, and often distant organs. We need only think of the gastric phenomena in diseases affecting other parts of the alimentary tract, such as; stomatitis, intestinal diarrheas, colitis, chronic constipation, dysentery, etc., where anorexia, vomiting and gastric distress form a prominent part in the symptomatology, although the stomach itself is not primarily involved. Affections of abdominal organs generally, such as; of the appendix, liver, gall bladder, and pancreas, and even diseases of organs outside of the abdomen, such as the heart and lung, kidneys, and affections of the genital organs, all at some time of their course, may cause violent gastric symptoms although the stomach is perfectly healthy and not diseased. Nausea and vomiting is usual in many of the infectious diseases, and in short there is hardly any disease of the human body of prominence or consequence but what the stomach at some time or other, takes part in the completion of its clinical picture. Nor does this cosmopolitan interest that the stomach shows in all diseases affecting the human being always remain but a merely functional upset, for very frequently these gastric disturbances from the beginning, are real organic lesions, of which ulcer, the disease under consideration, is probably the most frequent. In its further development this lesion may acquire a distinctiveness of its own, and become an independent lesion. As a concrete example I need but mention the gastric ulcers that so frequently follow in the wake of extensive burns of the skin. Such reflections as these led Roessle to consider and designate chronic gastric or peptic ulcer as "the second disease," secondary to and following in the wake of a variety of other primary affections.

In the use of this term Roessle wishes to convey the idea, not merely that the two diseases may occur simultaneously in the same individual, but desires to express a relation of the second disease to the primary affliction in a causative way; the

development of the secondary depending upon the previous existence of the primary affection. In this connection Carl Hart has published a valuable article.

His careful study of the histories of 166 cases of chronic gastric and duodenal ulcers showed an intimate association of peptic ulcer with cardiovascular lesions. 14.4% of the histories studied showed valvular lesions of the heart and 84 cases, or 56% had signs of the existence of a definite arterio-sclerosis. This fact already had been recognized by Virchow, who expressed the opinion that embolism and thrombosis, such as often occur in heart affections and arterio-sclerosis may also involve the gastric arteries, and are then mainly responsible for the formation of gastric or duodenal ulcer. That this may occur cannot be denied but that this process is as frequent as the figures quoted above, 56%, would indicate, Hart is not inclined to believe. The theory would not explain the fact that gastric ulcer in the young, occurs just as often in those without cardiac lesions as in those with them. Hart rather inclines to interpret the frequent co-existence of arterio-sclerosis and peptic ulcer as a coincidence, due to the fact, that both lesions naturally predominate in the middle and more advanced periods of life. I am inclined to coincide with the opinion of Hart, for the additional reason, that in my experience, old age, say over 70, which is universally affected with arterio-sclerosis is comparatively free from peptic ulcer. Thus we do not regard arterio-sclerosis or heart lesions, as a direct cause of gastric ulcer but do see it, as an indirect agent of gastric ulcer formation, brought about in a way later to be described.

As far as the lungs were concerned no close relationship between pulmonary tuberculosis and chronic gastric ulcer could be established, this of course is easily understood, considering the progressively smaller number of cases of tuberculosis occurring at middle age or past, at which time peptic ulcer becomes most frequent.

Hart found 23.49% of the peptic ulcer whose histories he examined to be afflicted simultaneously with gallstones, a rather high percentage. But here again as in arterio-sclerosis we must consider that both diseases are affections of middle age. Furthermore, when the effect of age was considered more accurately this high percentage of association of ulcer and gallstones really became evident *only* in the *older* cases. In the younger the percentage of association was quite low. Again, all of the ulcers considered in connection with the above mentioned affections were chronic and there was no way of telling the age of the ulcer as against that of the other affection, and in consequence there was no knowledge or clue which of the two had existed first.

In this respect, however, it was different in that group of cases of chronic ulcer where the ulcer was found to exist in conjunction with *cerebral* or *meningeal* lesions. Affections of the central nervous system were found in 17.4% of the 166 cases of gastric or duodenal ulcers, a percentage not nearly as high as when associated with gall bladder disease and very much lower than in the cases with cardio vascular lesions, but what is of much more significance and importance than mere percentage, some of the ulcers were found to be quite fresh and of but recent formation, the time element alone suggesting a dependency of one upon the other. The observation that gastric ulcer occasionally develops in the course of apoplexy, cerebral tumor, meningitis, or other lesions of the central nervous system however is not at all new. It has been quite frequently observed and commented upon by older clinicians, just because no evidence of a pre-existing stomach trouble could be obtained. In my own practice I distinctly recall the case of a farmer, 75 years of age, suffering a severe apoplectic stroke to which he succumbed within 24 hours. 12 hours before his death he vomited blood in large quantities. No autopsy. However in the absence of a history of previous gastric trouble or of the existence of a nasal or oral lesion, a distinct connection between the apoplectic stroke and the gastric hemorrhage cannot reasonably be denied. Among Hart's cases there were seven gunshot injuries to the head, one sarcoma of the hypophysis, five meningitis cases, four apoplexes, two acute cerebral softenings, all of which had gastric or duodenal ulcers. Hart states: "Among my entire material it is exclusively the cases of cerebral affections in which, with a probability bordering on certainty a close connection between fresh ulcer formation and a disease of another organ can be assumed." Two other additional, and very suggestive cases are reported by Hart. An old lady 72 years old with fracture of the base of the skull and death in a few days. Autopsy reveals the brain lesion

and several hemorrhages in the gastric mucosa upon which a typical fresh ulcer had formed. Further a girl 4½ years of age with a fresh trephining in the left temporal region for a supposed solitary tubercle of brain. Death in three days through gastric hemorrhage. Autopsy reveals an ulcer on the posterior wall of the duodenum near the pylorus, the size of a penny, with a distinctly recognizable depression, at the base of which an eroded artery can be seen. A consideration of these two cases, as well as my own observation as quoted above, are convincing and do fully justify the opinion that the connection between cerebral lesions and gastric ulcer formation cannot be plainer. Accepting as a fact what seems to be evident, that nerve influence is able to cause gastric ulcer, the question naturally arises by what process is this accomplished and can we trace this nerve influence along prescribed anatomical paths in a sufficient number of cases, to make it a generally acceptable and workable theory and thus supplant other existing theories? If not, can we not bring this thought in harmony with some of the already existing conceptions, concerning the genesis of gastric ulcer? As it is the intent of this paper merely to give information concerning the newer conceptions as to the causes of gastric ulcer, it will not be necessary to fully relate or prove the inadequacy of the already existing theories. A brief mention however may be of value. The acid theory, which recognizes hyperacidity, acting upon previously existing erosions or other defects of the gastric mucosa, as the cause of chronic ulcer formation; without giving a reasonable explanation however *for* this increased acidity; and building up as it does on the supposition of the existence of a previous mucous defect or erosion without giving the origin of the erosion, it is evidently not entirely acceptable. That small erosions and traumatisms of some form or other are very frequent in the gastric mucosa, is generally accepted, but in the majority of instances they heal promptly, in spite of the presence of acids. It requires more than mere hyperacidity to explain the chronicity of the disease.

The theory of bacterial origin of gastric ulcer, elaborated in the main by Rosenow, is well substantiated by many experiments although clinically very infirm. It assumes the existence of streptocacci of a certain strain and virulence with an affinity for the gastric mucous membrane, locating there and causing ulcerations due to localized infection and secondary digestion.

I must confess to incredulity and a lack of enthusiasm toward this theory while in full accord with the most modern opinions as to the effect of focal infections, at best it can only explain the occasional occurrence of septic emboli in the stomach and consequent formation of the initial lesion. The chronicity of the ulcer which forms the crux of the question cannot be explained by the presence of these highly specialized and factictious streptococci; which by the way, according to Rosenow and others, are present in but very small numbers. To account for the chronicity the theory is not sufficient unto itself, but must invoke the help of hyper-acidity and of " secondary digestion."

Roessle's conception of ulcer of the stomach as a "second disease" is based as stated above, upon the not infrequent occurrence of just ulcer with other affections. Ulcer formation to his mind is not dependent upon the circulation, but is most probably due to reflex nerve irritation. The vagus is the nerve that controls motility and the secreting function of the stomach, as has been proved experimentally. Reflex irritation of the vagus causes excessive, irregular and localized spasms and contractions in the stomach. It is, however, not the contractions of the motor muscle of the stomach that are of importance, but it is the localized spasms of the muscles of the submucosa that produce the ischaemia and erosions of the mucous membrane. Reflex irritation of the vagus also increases secretion and consequently the hyperacidity necessary to induce chronicity. The main strength of Roessel's views will always be the fact that it is based upon numerous clinical observations, but its weakness rests in the highly speculative character of his views and in the apparent inability of logical proof.

For if we have a gastric ulcer, we not only have to find the first disease, from which reflex irritation originates, but would also have to furnish reliable data, as to the greater age of the primary affection. Of necessity this will not often be possible, as the ulcer itself, is of a chronic and for a long time insidious nature, which same requirements are necessary in the main disease so as to induce prolonged reflex vagus irritation. Especially in the chronic gastric ulcers of young individuals the primary disease would be difficult to find.

The spasmogenic theory of von Bergman is

also based upon the existence of localized spasms in the submucosa but foots not upon the existence of a primary disease, but upon an abnormal constitution, or disposition, upon a "disharmony in the visceral nervous system."

"Von Bergman and his school attribute the formation of mucous defects to muscular spasms of the muscularis of the mucosa, resulting in necrosis and dependent upon a neurosis of the vegetative nervous system; an allusion to and a practical application of the vagatonia and sympathico tonia of Eppinger and Hess." It is a fact, that patients with ulcer of the stomach, with but few exceptions, possess symptoms of vagatonic and sympathico-tonic disturbances or better signs of irregularities of the vegetative nervous system. They have a tendency towards increased glandular and muscle function and to spastic contraction of the musculares in general, especially of the finer muscles. In the skin this disposition leads to such vasomotor disturbances as dermographia, in the mucosa of the respiratory tract to asthma, and in the alimentary tract to spastic colon, mucous colitis, gastric erosions and other conditions. Patients thus stigmatized tend to clamy skin, localized vasomotor disturbances, spasticities in the alimentary tract, spasmophalia and asthma which stigmata are quite evident to those, that are acquainted with them and who look for them. This spastic disposition, Bergmann assumes, causes repeated local spasms in the muscularis which when repeated sufficiently often lead to local ischaemia, and erosion, and eventually real ulcer formations.

Naturally, as stated above, the question arises, what proof do we possess that nerve irritation in its effect is able to go beyond mere functional disturbances and actually cause a real organic lesion. In this respect the experiments on animals by Ernest Gundelfinger and others are of convincing importance. His experiments on thirty dogs consisting of a series of operations on the vagus nerve and coeliac ganglion, which comprised at various times either vagus irritation, vagatomy, coeliac ganglion irritation, excision of the coeliac ganglion, and of various combinations of these operations were admirably carried out and the author comes to the following conclusions:

1. That neither vagus irritation nor vagatomy caused organic changes in the stomach or duodenum of dogs.

2. That coeliac ganglion irritation or extirpation lead to unquestionable erosions and ulcers in 100% of the cases.

We may not be prepared to transfer bodily the results of these animal experiments to man, but it does seem highly probably, that disturbances in the vegatative nervous system of constitutionally stigmatized persons, tends to have a similar effect. Thus von Bergman foots his spasmogenic theory upon a disharmony in the vegetative nervous system, upon an abnormal constitution, which, we must assume to be congenital. It is conceded that nervous stigmata above all, are most often inherited and it would seem that those, of the emotional type are especially so. A consideration of this would readily explain the observation of Hurst of the existence of gastric or duodenal ulcer in brothers and sisters, or still more frequently in patients, whose brothers and sisters had some sort of a gastric disturbance, ulcer not being necessarily present. Albu interestingly speaks of families with so-called inherited "weak stomachs."

Considering Gundelfinger's conclusions, it is probably not the vagus, along which the nerve influence is conducted, that leads to the initial trauma of the mucosa. It would seem more the loss of the coeliac ganglion and the consequent absence of the sympathetic influences of the plexus of Auerbach and Meissner, that causes the initial lesion. It permits a disturbance, or disharmony of balance of the two opposing elements of the vegatative nervous system, that is, that of vagatonia and its opposing sympathico-tonia. The reflex irritations terminating in disharmony of the vegetative nervous system are probably variable in nature, may originate from Roessle's "primary diseases" in the cardio vascular system, gall bladder, appendix, or brain if you wish, or from other occasional causes. Psychic influence should be, and is a very prominent factor. Footing and acting upon a spastic disposition it is of importance in the formation of ulcer. I recall a case where an individual dates the beginning of his ulcer from a period of a highly excited state of emotionalism after an especially full meal. It is apparent that these spasmogenically produced lesions to whose formation we have devoted so much time, should occur in almost any part of the stomach, that they must be quite frequent and judging from the relative rarity of chronic ulcers, that these lesions in the majority of instances must heal spontaneously. Otherwise we would see many more ulcers than we

actually do. It therefore still remains to explain why some of these lesions do not heal, but terminate in a state of chronicity, with remissions and exascerbations, and also must we give reasons why the location of these ulcers is so uniformly confined to the lesser curvature. In this respect Aschoff's anatomical studies, and experimental investigations are of great importance indeed. A few anatomical considerations are necessary to a full understanding. As will be seen by the slides I expect to show, the mucous membrane of the opened stomach at first glance appears to be distributed in rather irregular folds upon its inner wall. But on close examination, a series of generally four folds of mucous membrane may be seen, and can be demonstrated quite regularly along the lesser curvature, leading from the cardia to the vestibule near the pylorus. In a state of contraction of the stomach these folds form a distinct canal, at the lesser curvature, known as Magenstrasse or Canalis Gastricus. Through this canal fluids and that part of the gastric contents, which has completed gastric digestion, is propelled toward the pylorus into the duodenum. Furthermore the mucous membrane of the stomach is but loosely attached to the submucosa and by means of localized contraction of the muscularis is capable of infolding small portions of the mucosa, thus rendering that part practically extragastric. Erosions occurring in the mucous membrane are immediately infolded and excluded from the general stomach cavity and protected against the digestive action of the gastric juice and thus given an opportunity to heal. In the canalis gastricus the mucosa is attached much more tightly to the submucosa as can be readily demonstrated and no protective infolding can take place. In consequence the healing of an erosion in this locality is not so likely to occur, but is permitted to go on to ulcer formation indefinitely thus explaining the tendency of the gastric ulcer to occur here. It is evident that the universal location of the gastric ulcer at the lesser curvature, is directly dependent upon the results of mechanical and functional conditions. That in the lesser curvature the pyloric region should be a spot of predilection for gastric ulcer is apparent when one considers the effect of this acid stream directed against and impinging upon the pylorus. Furthermore, that the beginning of the canalis gastricus, near the cardia, should be another favorite spot is also evident for the same reason, but especially on account of the existence of the isthmus ventriculi as described by Aschoff, where the acid food enters this canalis gastricus, thus explaining the frequency of the so-called saddle ulcer at the middle of the lesser curvature.

I am nearing the end of my paper. It would appear that nerve influence central as well as peripheral, is a potent cause in the formation of the initial lesion of gastric ulcer, that a disharmony in the vegatative nervous system forms a constitutional prerequisite for the occurrence of spastic contractions, that the chronicity and location of the gastric ulcer is based upon anatomical and inherent functional conditions of the stomach itself, and that physic trauma as well as trauma of reflex nervous origin from a primary disease, play an important role as causes of peptic ulcer.

Such general considerations as the foregoing would not be of much interest to the general practitioner however unless we were able to draw from them certain conclusions which would be of value to him in the prophylactic treatment and management of this disease. Once established medicinal or surgical treatment of the ulcer must follow but meditating upon the theories expressed it would seem that prophylais and subsequent management would be mainly influenced by it. Patients stigmatized by a disharmony of the vegatative nervous system should not be permitted to suffer from chronic affections of any kind. Recurring appendicitis, gall bladder disease, ulcerations of the rectum and bowels, or lesions of any organ in intimate connection with the vegatative nervous system, should receive proper treatment, medical or surgical. As focal infections of the sinuses, teeth and tonsils are frequently the source of these chronic affections, they should be attended to and finally, repeated physical disturbances in persons with disharmony in the vegatative nervous system should especially be avoided. Hasty eating when greatly fatigued and the hurried lunches of businessmen are to be deprecated.

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THE DOCTRINE OF THE PREPARED SOIL: A NEGLECTED FACTOR IN SURGICAL INFECTIONS.*

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The introduction of the germ theory of disease may be said to have laid the foundation of modern medicine and to be the whole basis of our views in regard to surgical infections. The practical application of this doctrine to wounds and to the practice of surgery by Lord Lister is properly regarded as the beginning of modern surgery. From this developed aseptic surgery, opening the whole field of exploratory operations to the properly equipped surgeon. With this development went the growth of the laboratory as an essential agent in enabling us to fit treatment to disease. Today we are exceedingly dependent upon the results of laboratory investigations, and one might perhaps refer to the present era as the laboratory period. On the other hand, it sometimes occurs to me to think that we at times lose our sense of proportion and become altogether too dependent upon our laboratory associates and at times rely too implicitly upon their results. Certainly the modern medical student often fails to recognize the proper relation of laboratory investigations to the care of patients to such an extent that they become not his assistant, but his master. It is not rare to find in the active, devoted young hospital surgeon a state of mind in which he almost believes that bacteria are the cause of infection. He appears to forget that infection is a result, that bacteria in and of themselves can do nothing except in contact with living tissue and then, often, only under highly special conditions. He forgets that it takes two to make a fight; that there are two essential parties to an infection. Perhaps he may be trusted to learn, as time goes on, that infection is nothing more nor less than the reaction of an individual to a particular kind of an insult and that with two people equally exposed to infection one may acquire it and one may not.

Much as we know about the etiology of disease we are still much in the dark concerning the conditions of the body antecedent or predisposing to infection. We use the phrase susceptibility with a very vague conception of what constitutes susceptibility and we talk rather gravely about immunity while there is still much in this field of which we are ignorant. Of the bactericidal power of the blood and tissue fluids we know something, but not all. We know something of the ability of cells to destroy bacteria, but of the precise conditions which influence their activity there is much that we do not know. Here is an immense field still open for further investigation and here, beyond question, great reputations will be made.

But it is not to this aspect of infection that I desire today particularly to call your attention. It is rather to certain other conditions favorable to infection that I wish to invite your attention. Modern surgery is dependent upon our ability to avoid infections which might perhaps be called extraneous. I do not wish to confine this term extraneous to the actual introduction of bacteria into the wound, though they are, of course, an important factor. Rather do I wish to include all those conditions as the result of which wound infection of some degree results. I need not take your time to point out that, though the whole structure of modern surgery is erected upon our ability to avoid infections which do not exist before operation, it is notorious that our success is incomplete. No one of us goes through a busy year without having some patient—even many—whose convalescence is lengthened, whose life is jeopardized and in whom the result of our efforts is less perfect than it might have been, because we did not avoid infection. A certain, though perhaps small, number of the deaths chargeable to surgery are the result of our failure to avoid infection. This appears to me to be one of the weakest points in the armour of the surgeon, and

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I am not sure that our enthusiastic devotion to the study of bacteriology and our almost slavish adherence to the view that bacteria are the cause of infection has not to some extent drawn our attention away from other factors which are of almost equal importance. Most of you will be able to call to mind the situation which arises in a hospital when in a given period of time there is more wound infection than is the average for the locality and suspicion arises that all is not well. At once we begin to suspect that the sponges and such gear concerned with the operation have not been properly sterilized or that the ligatures or sutures have been carelessly prepared; or failing that, that our assistants or our nurses have failed of their full devotion to the theory of aseptic surgery. Even perchance we begin to investigate the very air we breathe as the source of this noxious happening which has shaken our confidence in our ability to avoid infection. Here we see in its purest form the operation of the Doctrine of the Goat showing our eternal desire to pin on to something or somebody the errors of omission or commission which we believe to have brought about our downfall. As a rule, in my judgment, the surgeon is the chief source of these wound infections, and it must be shown that this be not true before we try to lay the blame at the door of others. I do not at all intend to suggest that bacteria are introduced into the wound by the surgeon. It is precisely because I do not believe that the essential factor here is the introduction of bacteria that I take your time at all in discussing this question. The responsibility of the surgeon appears to me to include not only his liability to introduce bacteria, but also his failure to protect the patient from those conditions which make infection probable. These conditions are manifold and I like to group them under the head of The Prepared Soil. Now these conditions making for infection may be either general or local.

GENERAL CONDITIONS

Under the general conditions we should group those which we may refer to, perhaps rather vaguely, under the phrase, lowered resistance.

Fear—Among these I would put in a high position fear. We all of us are familiar with the fact that the condition of the mind has an important effect on the condition of the body, but we fail sometimes I think to apply this doctrine where it would do most good. Many times I have seen patients whose convalescence seemed to me clearly lengthened, whose wounds healed sluggishly or acquired infection, largely because from the outset they were in mortal terror of the result. The reverse of the picture is perhaps more striking. We have, all of us, seen patients whose optimism and fearlessness were such that they withstood fearful surgical insults without shaking either their equanimity or their healing power. Now fear, particularly in connection with surgery, is not a thing which can be wholly avoided, yet it may be much minimized, and, as I think, to great advantage. Crile has clearly shown that the minimizing of fear in operations upon the thyroid gland under toxic conditions does much to lower mortality. While it is undoubtedly true that fear is an unusually important factor in disease of the thyroid gland, it is none the less an important factor always in surgery, and I feel sure that we shall do well to guard our patients against fear and to surround them by the largest possible amount of protection in order to minimize its affect upon their reaction to surgery.

Starvation—At a somewhat earlier time I should have placed starvation high in the list of those conditions which predispose to infection. Undoubtedly a generation ago, or in the earlier days of abdominal surgery, we deprived our patients of food to an unwise extent and thereby lowered their resistance. I am not sure that we have even yet reached the limit of our willingness to continue patients upon an ordinary diet up to the last moment. Particularly is this important in the old, the feeble and the young. At both ends of the scale of life we meet conditions of diminished resistance to insult, and we must be upon our guard against depriving these patients of their ordinary income of sustenance.

Dehydration—Perhaps under starvation, but not always thought of in that light, should be considered dehydration, the withdrawal of water before operative procedures. Of late years more and more the evidence has been forthcoming that the withdrawal of water is gravely dangerous to many patients under many conditions. I believe that there can be no doubt that the habit of most of us a generation ago of practically withdrawing liquids entirely during the twelve hours previous to operation and very largely withholding them

during the same period after operation tended to invite lowered resistance and consequent infection. I entirely believe that the withdrawal of water should be reduced to a minimum; that if patients have suffered from any condition in which their body fluids have been reduced that this reduction should be made good before operation and maintained afterwards. None of us, I take it, withhold water before operation to the extent that we did years ago, but I am not sure that we realize the danger of dehydration quite enough, and doubt if the introduction of fluid both by rectum and under the skin as the antecedent to operations in critical cases is practiced as much as its importance would justify. In the same way I doubt if we pay enough attention to fluid intake after operation, especially in patients in whom liquids cannot properly be given by mouth in sufficient quantities. To sum up what I have to say in regard to starvation and dehydration, I believe we should use every endeavor to maintain patients on a full diet to the last safe moment, and to be sure that their body fluids are at least up to normal before operation and kept to normal after operation.

Anesthesia—Another important general condition tending to lower resistance is anesthesia. The last ten years have seen an enormous improvement in the administration of anesthetics. It is now widely regarded as a rather special business and the days when we entrusted it to the least competent person are happily of the past. Nevertheless, I doubt whether we sufficiently recognize that the proper choice and skillful administration of the anesthetic is an important factor in the healing of our wounds. For instance, the selection of ether for no reason other than that it is the only anesthetic sufficiently fool-proof to be within the safety zone of the unskilled anesthetist may well result in irritation of the respiratory passages with coughing, producing pain and bringing much additional strain upon the sutures of the abdominal wound. Had this patient been given some other anesthetic better suited to his condition, his wound healing might well have been less stormy.

Length of Operation—And finally, under the general conditions predisposing to infection, I would put the time consumed in the operation. I fear that we are prone to forget that the time consumed in operation is taken directly from the stock of vitality of the patient. This we cannot seriously doubt because we know that particularly with ether and chloroform, undoubtedly the two most common anesthetics, prolonged operation means a very undesirable action upon the tissues, with definite lessening of the alkali reserve and the production of at least some degree of acidosis. I believe that we should always bear in mind the requirement to get through our work in the shortest time compatible with doing everything which should be done, neither more nor less. A full adherence to this requirement would probably bar from surgery some of those people lacking in manual dexterity and who could under no conditions become dexterous operators. But though I may be judged unkind and inconsiderate, I am not sure that there are not today engaged in the practice of surgery many whom the Lord never intended to be surgeons and whose talents would be better employed in some other field. I continue to believe that the minimum expenditure of time is a thing upon which the patient has a right to insist.

LOCAL CONDITIONS

Though I have no doubt of the importance of the general conditions just discussed as factors tending to increase liability to infection, I think it probable that the local conditions surrounding a surgical operation are of even greater importance.

Skin Preparation—In this field, as in the field just discussed, we have made a considerable advance over the conditions of a generation ago. At that time the use of a great variety of highly irritating solutions in the business of preparing the skin for operation was regarded as essential. Gradually we have abandoned one complicated method after another until today it appears that ordinary cleanliness is perhaps the most important factor, and that the minimum application of irritants gives the best results. I would, however, still warn against over-preparation of the skin, which, in fact, means a greater reliance upon the ability of tissues to look after themselves if not too grossly insulted.

But I come now to a group of local conditions which seem to me of commanding importance and which are, to my mind, the most important factors in the doctrine of the prepared soil.

Rough Handling of Tissues—Body tissues are undeniably delicate and die under conditions of insult. Therefore, roughness in handling, the use of dull instruments which bite and chew rather

than cut, the grasping of masses of tissue in order to control bleeding, the heavy-handed drag on retractors of the absent-minded assistant turned for the moment into an interested spectator, are insults which no tissue can be expected to withstand. Yet it is all too common to see tissues handled in a manner little short of brutal. This results in death of the tissue, necrosis and the production of a medium highly favorable for the growth of bacteria. Those surgeons get the best results whose instruments are sharp, whose touch is delicate, whose eyesight is good, and whose assistants are impressed not only with the fear of God, but with the fear of tissue damage.

Haemostasis—Failure of accurate haemostasis is another factor producing conditions favorable to bacterial growth. Dry wounds heal kindly; wounds containing blood clot are notoriously prone to infection.

Mass Ligatures—Quite along the same line is the inclusion of masses of tissue in a tight ligature where the same amount of haemostasis or better could be obtained by picking up, not a fist full of tissue, but the vessel itself. The practice of strangling a mass of tissue in order to approximate a wound and control bleeding is likewise objectionable, resulting in necrosis and favoring infection.

Our experience in the war shed a bright light upon this question of wound infection. We did not begin to handle our wounds in a satisfactory manner until we learned that the excision of damaged tissues with removal of infectious material in bulk was the key to success. Now in these wounds we do not abolish bacteria. Not only were the surrounding tissues often already invaded, but the conditions under which these operations were done did not lend themselves to first-class aseptic technique. Nevertheless it was clearly shown that the removal of devitalized tissue and grossly infected structures, particularly if done relatively early, was often followed by surprisingly kind healing. This, I think, clearly demonstrated the action of dead tissue and blood clot as a prepared soil upon which bacteria would grow, though unable to conquer the tissue when in a reasonably normal condition. The avoidance, therefore, of those conditions which make a wound favorable soil for bacterial growth becomes a factor of the first importance in avoiding infection. Surgery is still an art, and I doubt whether we value quite highly enough the art of surgery. Manual skill and dexterity are still factors of first-class importance. Asepsis and anaesthesia have tended to bring surgery to a point when speed and dexterity are something short of essential to success. In the pre-anesthetic, and somewhat less in the pre-antiseptic days, only men of great character could be great surgeons. Today our patients do not die and therefore we regard our operations as a success. We are apt to charge off wound infection to the carelessness of others and curse roundly our maker of sterilizers or our maker of cat gut, when we should rather look to ourselves as the real sources of the damage. Heavy hands, rough surgery, needlessly long incisions, crushed tissues, impaired circulation from two tight sutures, these and other failures of technique produce a soil prepared for infection. Given the prepared soil infection will follow in a proportion of cases quite sufficient to make up to the total of our failures, without the assumption that it is our assistants rather than ourselves who are to blame.

Now there are certain fields in which this Doctrine of the Prepared Soil is of primary importance and yet in which no surgical wound is involved. Perhaps this is nowhere better demonstrated than in the natural history of infections of the urinary bladder. In parenthesis one might add that failure to recognize the application of this doctrine is a potent factor in the production of bladder infection. Briefly stated, the situation in regard to infections of the bladder is this: The introduction of bacteria into a normal bladder will not cause infection. This may be stated dogmatically, as there is a vast accumulation of experimental work behind it. Even moderate trauma of the bladder will not lead to infection, as shown by the fact that the use of the cystoscope and the ureter catheter even in unskilled hands is rarely followed by observable infection. In fact, did infection follow the introduction of bacteria into the bladder, the whole great field of cystoscopy would be non-existant. It is quite impossible to introduce an instrument into the bladder, particularly in the male, without at the same time introducing, from the urethra, organisms. It is at least exceedingly common that the use of the cystoscope, and particularly the ureter catheter, produces slight abrasion of the mucous membrane, as witnessed by the exceeding frequency of microscopic blood in the urine

collected from the ureters, and yet it is notorious that these people have no recognized infection.

What then are the conditions under which infection of the otherwise normal bladder will take place? They are the conditions resulting from overdistention due to urethral obstruction. In this way is produced pressure upon the bladder wall. The arterial supply, having behind it a positive force and a force which can be increased automatically, keeps up the nutrition of the tissue, but during this same period of pressure the venous return is gravely handicapped. Now let us assume that this bladder is suddenly emptied and the pressure released. At once active congestion of the whole bladder will ensue; if the pressure has been considerable there may be petechial hemorrhages or even gross bleeding. In the minor degrees there is oedema and soggy devitalized tissue. Here is the prepared soil on which the experimenter has been able, with considerable regularity, to produce bladder infections, and in this way, to our shame be it said, is commonly produced the so-called "catheter cystitis," which has in fact little or no relation to the catheter. We see this happening all too frequently in the conditions of so-called reflex retention of urine following surgical operations commonly in the neighborhood of the bladder. The mechanism is, I think, easy to understand, at least in theory. The machinery of normal urination depends upon the transmission of stimuli through the reflex arc of the bladder neck through lumbar cord to bladder sphincter. If and when these paths of transmission are occupied more or less to the limit with the transmission of painful stimuli from recent surgical insult they are incapable of attending to the minor stimuli of bladder distention and the reflex breaks down. It has been far too much our custom in the past to postpone what we regarded as the evil day when catheterization in reflex retention must be undertaken. When faced with the overdistended bladder we are obliged to resort to the catheter, and when, owing to the prepared soil, infection followed in logical sequence we have sought refuge in the Doctrine of the Goat. We have forsooth cursed our sterilizer of catheters, our nurses, our house officers for faults which are primarily our own. Had we been willing to face the facts at the proper time, to realize that in the absence of overdistention, with its prepared soil, catheterization was an utterly harmless proceeding and, as a result of this logical sequence, had been willing to catheterize before overdistention had occurred, the so-called catheter cystitis in this group of cases would long since have become a surgical curiosity. I believe we may confidently assert that in bladders not the seat of any lesion catheterization is harmless if at no time an amount of urine in excess of a low normal, which may be put at ten ounces, is allowed to accumulate. If in this group of cases we desire to make assurance doubly sure, then we shall do what we can before operation to make the urine itself an uncongenial abiding place for organisms of the colon bacillus group. We must remember that in the infections produced by this organism the urine itself is the soil in which they multiply most freely, and that given a source within the urinary tract from which colon bacilli go on with certainty. We shall therefore be well advised to administer as a routine some formaldehyde containing drug immediately preceding all surgical operation at all commonly followed by reflex retention of urine. Attention to these two points, the avoidance of distention preparing the soil, and the making of the urine a disagreeable climate for the growth of the bacteria, will wipe this quasi-surgical infection from the list of our failures.

Let me now briefly recapitulate what I have consumed so much time in saying. We have, I believe, in the consideration of wound infections and allied conditions paid too much attention to the bacteria themselves and too little to the conditions which favor bacterial growth. Complete sterilization of operative fields may be judged impossible and, even though we were able to enter the body without the possibility of introducing pathogenic bacteria, we must still remember that bacteria circulate in the blood far more often than we realize, and will find their way to those portions of the body where conditions are favorable to their growth. No one of us doubts that what one might call spontaneous infection will occur when the skin is unbroken. We cannot, therefore, doubt that if we leave behind us a bruised and bleeding part infection will follow in a certain proportion of the cases. Particularly to those of you who are concerned with the training of the doctors of the future I would commend the Doctrine of the Prepared Soil. I would beg of you to introduce this into the confession of faith of your surgical pupils and to bring them to the high estate of the surgeon

duly impressed with the view that they must respect the minds and the bodies of their patients quite as much when under an anesthetic as they do in everyday life. Instill into them a decent respect for the tissues of others to the end that the art of surgery may come more smoothly to its fruition.

CHOLECYSTECTOMY — ITS FAILURE TO GIVE RELIEF IN CERTAN CASES OF CHOLELITHIASIS.*

BY P. P. M. JORGENSEN,

KENOSHA.

Fifteen years ago the majority of surgeons stressed the importance of drainage of the bile ducts after the removal of gall-stones.

As the operation of cholecystotomy gave the best opportunity for drainage this was the operation of choice.

Even in cases where the gall-bladder had undergone so much change of a degenerative kind that it surely could not carry out its functions in the body, whatever that may be, still it was left after draining freely and seldom gave rise to trouble if there was a free drainage of healthy bile.

At least such was my slight experience, taking care of a few cases each year with never a patient that had trouble enough subsequently to require the removal of the gall-bladder.

But as time went by more men began to remove the gall-bladder claiming this the more nearly ideal procedure.

So although, as already stated, my experience with drainage after the removal of the gall-stones had been very satisfactory, the reasoning of the advocates of cholecystectomy seemed so convincing that I thought perhaps my patients would be better safeguarded by the removal of the gall-bladder than the removal of the stones and drainage, hence I began to find more cases where according to the teaching of the day cholecystectomy was indicated.

To my surprise my results were poorer instead of better. I will cite the history of two cases to illustrate.

Mrs. P. T., age 52, came to me three and one-half years ago with the following history: Present trouble began when she was 24 years of age. She had sudden attacks of pain in upper right side of abdomen with nausea and vomiting. These attacks were seemingly brought on by hard work or indiscretions in diet during the first few years, but of late were more frequent, severe, and came on without any apparent provoking cause.

There was no jaundice or presence of bile in urine.

Patient's family history negative and likewise her personal history outside of this one ailment.

She is the mother of eight healthy living children and herself the picture of robust womanhood.

At operation I found pelvic organs and appendix normal, likewise gall-ducts and stomach.

The gall-bladder was of a grayish color and moderately distended with small stones. I removed the gall-bladder and the patient made an uneventful recovery from the operation.

Two months later I was informed that she had a regular attack of pain, nausea, and vomiting. All symptoms the same as before the operation.

They have occurred with varying degree of frequency and severity since that time.

The other case I referred to was a younger woman, Mrs. J. H., mother of three small children.

Symptoms of pain in upper right side of abdomen with nausea and vomiting, which began about two years ago.

Family history and personal history negative outside of attacks mentioned, which are coming on with increased frequency and severity.

At operation pelvic organs were normal, appendix showed moderate involvement and was removed.

Stomach and bile ducts normal. Gall-bladder bluish color, but contained a number of moderate size stones, several of which were imbedded in pockets in the walls of the viscus.

Removed the gall-bladder, the patient going home feeling well after a rapid recovery from the operation.

Within six weeks she had an attack of her former symptoms, and they have recurred off and on since.

The fact that I have for years treated parallel cases, to the two cited, by doing a cholecystotomy and draining with but one case ever having recurrence of the former symptoms, causes me to hesitate a good deal before I remove the gall-bladder from patients with gall stones.

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*Read before the Wisconsin Surgical Association, Milwaukee, April, 1922.

EYE INJURIES IN INDUSTRIES.*

BY GUSTAVUS I. HOGUE, M. D., F. A. C. S.

MILWAUKEE.

Most of the eye injuries in the industries may be avoided by proper instruction and the installation of modern safeguards by the Employer, and last but not least the exercise of due care by the Employee. Too many accidents are due to sheer carelessness.

Great advances have been made in the field of safety devices and the installation of same has saved many thousands of eyes of employees and may thousands of dollars to the employer which the latter would have to pay in legal fees, medical fees and compensation verdicts as well as loss of the man's services during the period of disability.

The State is vitally interested in the prevention of injuries and has, thanks to its activities, reduced the number of casualties to a marked extent.

The State of New Jersey has a building at Jersey City devoted not only to the very complete exhibits of safety appliances of all kinds but the Court of Compensation holds its sessions here and the splendidly equipped hospital on the floor below begins its work of rehabilitation a few minutes after the case is referred to them by the court.

Hospital equipment from the simplest type to the most extensive is demonstrated by a permanent installation on one floor; the different lighting systems are on exhibit in one room and here I witnessed a unique and remarkable demonstration with the direct, indirect and the mercury lamp. The latter it was said was the ideal lighting for a factory where the matching of colors was not required.

The mercury vapor lamp seems to give the maximum amount of light with the least irritation to the retina with a consequent minimum eye strain.

An ounce of prevention is worth more than a pound of cure when the subject is injury to the eye.

Among the approved safety devices are screens for iron chippers and bottle workers; hoods and pneumatic fans at grinder wheels, masks or goggles to protect against flying chips of metal, glass or stone. You may install all or any of these appliances but it often proves quite a task, especially with the foreign element, to make them appreciate these safeguards. Therefore pictures of "horrible examples" placed in conspicuous places with explanatory notes in the various languages of the employees, illustrated lectures and motion pictures should be a part of the prevention program.

Reprimand followed by dismissal on subsequent disregard of rules as regards precautionary measures to be taken by the employees has a salutary effect upon the rest of the workmen.

The treatment in the case of an eye injury may do more harm than good when performed by a non-medical or unexperienced person, hence it is the best advice to refer the case if you are in doubt.

First aid may be given in the factory by nurse or attendant and this consists solely of the application of a clean gauze eye pad and bandage. Adhesive strips to be applied always if there is any chance that the patient will remove the eye pad. The patient should be immediately referred to the Industrial Surgeon who in turn will call in a specialist if in his judgment the case demands it.

Where the factory is equipped with the proper hospital facilities the patient may be given more intensive treatment under professional attention—for example the magnet may be employed to remove an iron or steel foreign body, for the sooner the foreign body is removed the better.

Right here let me ask for the death penalty on all non-professional operators on the eye. You know the kind of man I mean for you meet him, thank God, not as frequently as in years gone by, in almost every shop. He has a horse hair or a dirty metal pick that he has carried in his pocket for years or he has a patent foreign body extractor that he uses without any previous attempt at sterilization.

In order to get good results you must install the proper equipment in your hospital or office. It is imperative that sufficient illumination and manification of the field of operation exists.

The lid speculum is frequently required in removing the foreign body, especially if the foreign body is small or imbedded, for the smaller the foreign body the more difficult to extract by magnet, forceps or spud. Cocainize the eye thoroughly with four per cent solution every four minutes for four times before operating.

It is well to have the patient in a relaxed condition and if the patient is on a table you will obtain this desired state. Preliminary injection of morphine sulphate Gr. ¼ assists the operator as well as the patient. The proper eye spud, dull edge

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preferred, and a corneal burr to use after the foreign body is removed are essential. An X-ray equipment is necessary, for frequently the wound of entrance cannot be detected and the patient often states that the foreign body hit him and bounded out. Frequently the foreign body does not cause any pain either on entering or while remaining in the eye.

Don't take any chances! You can save your company a lot of money if you will take the precaution to obtain an X-ray of all cases that come to you with a history of eye injury and the foreign body cannot be seen with the naked eye. A magnet is necessary if you intend to operate, but the magnet is also a diagnostic agent and valuable for the subjective symptom of a drawing pain when the magnet is applied near the eye and gives us evidence of the presence of a foreign body in the eye.

Don't neglect to take the visual acuity as soon after the accident as possible, and that with a test chart which is properly illuminated. In your legal encounters the latter advice will stand you in good stead.

Medicines of sufficient strength to sterilize the eye would destroy it, but certain drugs have a certain effect upon the eye that minimizes the chances for infection. For many years and even today the favorite antiseptic is a fresh solution of argyrol, but be snre that it is fresh. The strength used is from 15 to 30 per cent. Bichloride 1-3000 ointment ranks next in favor. Merchurochrome 220, one of the newer preparations, is coming into favor but guard against its staining qualities.

Fluorescine 2% should always be on hand to be used to localize any epitheleal abrasions of the cornea and to note the process of healing of the corneal wound.

Fluorescine, grains VIII.

Liq. Pottass., ½ Dram.

Aquae Dist. q.s., ad 1 oz.

Filter and allow to stand 10 days before using solution.

Antitetanic Serum is a most valuable remedy and should be used in every case of foreign body in the eye.

In the American Expeditionary Forces every soldier that was wounded at the Front in the World War was promptly given an injection of antitetanic serum and Dr. Morax, who saw more eye injuries than any other oculist in Paris, marveled at the paucity of cases of Sympathetic Ophthalmia and credited the timely injection of Antitetanic Serum for this marvelous showing. He told me that only thirty-three cases had come to his notice during the entire period of the war.

As Sympathetic Ophthalmia has been the bugbear of our profession, it is consoling to know that we can do so much to prevent blindness in our land by this simple precautionary measure.

Ammonia, acetic acid or vinegar should be handy to neutralize acid or alkalic burns.

Cocaine solutions 2 to 10% strength may be sterilized by boiling.

Scarlet ointment 5% is most efficacious in repair of corneal epithelium.

Iodine is a valuable drug to cauterize corneal ulcers but for the more prolonged action use the following combination:

Zinc Iodid	15
Iodin Crystals	25
Glycerine	50
Aquae	10

Sterile eye pads of gauze and 1½ inch bandages in sterile jars ready for use. Adhesion tape also.

In preventive measures we must insist upon the routine examination of all applicants as regards visual acuity both for the distance of 20 feet and in the near at 15 inches. The Retinoscopic or shadow test should preferably be employed. Remember that the hypermetrope or far sighted person often has poor vision in the near and in the young this condition cannot be determined except by the shadow test. After the age of forty most of us need lenses for near work and reading.

It is most important that the goggles worn should be comfortable as regards the frame and if necessary have lenses ground to correct the refractive error. Every man should be supplied with his own individual goggle. If these precautions are carried out you will have less trouble in enforcing the use of goggles, otherwise it is almost impossible to carry out this preventative measure.

The proper lighting is a most important item for it means the maximum amount of work as regards quality and quantity of the work performed. It also means a minimum of disability. It is a well known fact that most injuries occur in January and the minimum in July, more often at night than during the day. Daylight is by all odds the best illumination but most factories re-

quire artificial lighting at a certain season of the year. White walls as a background for your machinery and the installation of the mercury lamp would minimize your list of accidents considerably. A hand illuminometer to measure the illumination in various parts of the factory is indispensible.

Don't overlook the matter of proper ventilation. Improper ventilation leads to drowsiness and one in this condition is more liable to accidents.

The foreign bodies most frequently found in the eyes are (a) emery, which frequently is hot when it hits the eye and causes a burn. The danger is infection and ulcer following which, if it occur in the pupillary area, is serious as regards vision. Install hoods on emery wheels and compulsory use of goggles to prevent injury. (b) Scales of iron or steel are often thin and sharp. They may penetrate deeply and cause little or no pain. Goggles here should be compulsory. Use the X-ray in your examination of these cases.

Burns from molten lead, acids or alkalies may cause superficial or deep burns of the eye. In oxy-acetylene arch welding the burn is due to the ultra-violet rays and strangely the burn is not noticed for several hours after the exposure. Use the novial lenses in the goggles to exclude all of the violet rays.

In bottling works goggles should be worn.

Wood alcohol may bring about an optic nerve atrophy from internal use or from inhalation of fumes.

The prognosis in eye injuries is often difficult to give and therefore should be guarded.

Sympathetic Ophthalmia especially in injuries to the ciliary body region must be borne in mind.

A simple case of cinder in cornea has lead to infection followed by ulcer and destruction of the eye.

Conclusions:

1. Great care in the first examination of an eye injury.

2. Strict cleanliness in the removal of a foreign body.

3. Rigid antisepsis in the after treatment.

4. Insist that the non-professional attendant shall only apply the gauze pad or bandage.

5. When in doubt leave alone and call for expert consultation.

HYPERALGESIA OF THE SKIN AND SUBCUTANEOUS TISSUES AS A FACTOR IN THE DIAGNOSIS OF LESIONS OF THE ABDOMINAL VISCERA.*

BY GEORGE F. THOMPSON, M. D.,

CHICAGO.

Early in my medical career my attention was frequently called by my colleague, Dr. F. S. Hartmann, to numerous cases of abdominal pain accompanied by hyperaesthesia, or more properly hyperalgesia, of portions of the skin and subcutaneous tissues of the abdominal wall, both with and without the presence of demonstrable visceral lesion, and we sought constantly for an explanation of this phenomenon both by observation of clinical cases and perusal of the literature without reaching any satisfactory conclusions until within the past few years and even now many cases remain obscure or unexplained.

The paucity of observations on the subject of hyperalgesia of the abdominal wall in medical literature is remarkable considering its frequency in clinical work. Previous to the past few years practically nothing was written on the subject outside of experimental work in physiology and even since attention was called to the nature and purpose of this condition by the work of Head, Mackenzie, Kelling and others, there are scarcely half a dozen articles in current literature and none in recent text-books, except in the Oxford Surgery, which deal with the interpretation of this very important clinical sign.

Frequently patients are seen with pain in the abdomen, generally on the right side and most often in the illiac region and very much oftener in females, especially young women, who fear or have been told that they have appendicitis or have been operated for appendicitis without relief from the pain, in whom it can be demonstrated that the pain is due to hyperalgesia of the skin and subcutaneous tissue over a limited area, by simply picking up the skin and subjacent tissue between the thumb and finger and pinching it only moderately hard, thus causing the patient to wince or even cry out or jump off the table in extreme cases, while a similar or harder pinch over adjacent areas produces no evidence of pain whatsoever. Of

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course downward pressure on this area likewise elicits pain and tenderness which is attributed to disease of the underlying structures, often resulting in operations for conditions that do not exist. That there is no real tenderness dependent on the viscera beneath can be demonstrated by pushing the affected skin to one side and making pressure or by pushing the tips of the fingers into the abdominal wall from beyond the margins of the hyperalgesic area. The methods of eliciting hyperalgesia consists of such maneuvers as rubbing the skin lightly with a cotton applicator or a glass rod, pricking with a pin or pinching the skin, which latter is the best and most reliable, the skin and subcutaneous tissues being raised up between the thumb and finger and drawn away from the body wall and then pinched with the same definite and constant degree of force as in all other tests made here and elsewhere over the abdomen.

This same type of hypersensitiveness occurs in the skin of various other parts of the body, and the causes are not always apparent. Lesions in nerve centers and adjacent structures, especially the spinal ganglia and posterior roots, account for a large group, as in herpes zoster, tabes, syringomelia and various cord diseases. Herpes zoster may exist for a long period of time without any eruption and the disease may conceivably run its course without skin manifestations apart from pain and sensitiveness, and other lesions of the posterior roots may cause similar hyperaesthesia, so that if the centers involved happen to be related to nerves supplying areas of the skin over a certain organ, as for example, the gall bladder or appendix, the pain and tenderness present in that region are usually and quite naturally ascribed to a lesion in that viscus. It is these areas of hyperalgesia, which are generally of considerable extent and are not definitely limited to a particular area, as are those due to lesions of the various organs which will be described and discussed in this paper, which cause errors in diagnosis of intra-abdominal disease, especially where the character and course of the suspected ailment is not typical.

Hyperalgesia of the abdominal wall, in the sense in which we are here dealing with it, refers to its occurrence in the course of diseases of the abdominal organs as a viscero-sensory reflex, which can be demonstrated to have a definite seat of appearance and a definite limitation of extension for each separate organ or system of organs and which has a definite and fixed value in the diagnosis of lesions of that particular organ or group. In order to elaborate this statement and prove the role of hyperalgesia in the interpretation of visceral disease it will be necessary to review and recall certain facts in reference to abdominal pain and the sensory reflex mechanism of the body. The terms, "tender appendix," "tender gall bladder," "tender stomach," and so on are misleading as it is well known that the visceral peritoneum is devoid of ordinary sensation and even the parietal layer is insensitive beneath the subserous layer. Consequently the pain must be due to other causes than sensation in the organ itself and these are, (1) local peritonitis, involving the parietal layer; and (2) spasm of the smooth muscle fibers in the hollow viscera; and hence as there is no sensation in the visceral peritoneum and as pain is the only sensory reflex caused by disease of a viscus (Mackenzie) it follows that excluding the pain due to peritonitis, all pain and tenderness is dependent on the viscero-sensory reflex.

Where local peritonitis exists, pain and tenderness on pressure are present over the seat of inflammation, and as this may spread beyond the site of its origin, the extent of the tenderness does not give definite evidence of the seat of the disease, e.g., tenderness and pain in the right lower quandrant may be due to peritoneal involvement originating in the appendix, the tube or a ruptured ulcer from which the escaped material has gravitated down along the colon. Spasm of smooth muscle fiber causes pain. The pain of gastric ulcer, the pain in appendicular and intestinal colic, and in biliary colic is due to spasm of the muscle, resulting in so-called referred pain through the sensory reflex arc. Referred pain is a common phenomenon and the area to which it is referred is definite and constant. The pain of renal colic is felt in the testicle and thigh, never in the skin of the scrotum; biliory pain in the right scapular region; the pain of Angina pectoris in the left chest, axilla and arm; the pain in diaphragmatic-pleurisy is referred to the upper or lower abdominal wall if there is peripheral involvement and to the neck on the same side in central involvement. In like manner diseases of the various abdominal viscera cause referred pain at various locations as will be more fully described later. The cervix uteri is not sensitive to touch or to pricking with sharp instruments, but if it is

dragged down pain is felt not in the cervix but in an area just over the symphysis.

Referred pain is due to changes in the afferent impulses from the diseased organ. In hearth impulses flow into nerve centers and out to the periphery without causing disturbance but as Sherrington says a segment of the cord may be so violently stimulated by abnormal impulses coming from a diseased viscus that it remains in an over excitable state for a considerable time and this is manifested by hyperalgesia of the skin and spasm of the muscles supplied by nerves from that segment. Ligat calls this area of increased irritability an "Irritable Focus" which upsets the equilibrium of the reflex arc, so that ordinary stimuli applied to the skin supplied by nerves from that segment evoke an abnormal response.—that is, an ordinary pinch produces pain and the area over which pain can thus be caused constitutes the hyperalgesia area corresponding to the viscus involved. These areas do not correspond to the exact segmental areas of the cord but spread from one part of a segment to another without affecting the whole segment (Ligat). Attempts have been made to correlate the relation between the various viscera and the sensory segments of the body supplied by nerves from the cord segment which receives nerves from that particular viscus, but clinically at least it has been found impracticable, but as will be shown there are definite areas which give reliable information referable to definite organs. Ligat calls these sites, "function areas," i.e., the points at which the pain produced by pinching is out of proportion to that produced in closely approximated areas which may lie in the same segmental area of the cord.

Attention should also be called to the role of the reflex viscero-motor arc in the symptomology of abdominal disease and other conditions. The rigidity over the appendix, gall bladder or the general rigidity in diffuse peritonitis; the spasm of the ilio-psoas in appendicitis, the spasm of the muscles about an inflamed joint, are examples of the activity of this motor reflex.

The final point to be brought out in reference to the nature of the sensory reflex, is the fact that the mucosa of the viscera is the seat of origin of the arc; in other words it is through impulses originating in the mucosa that the reflex is activated. The peritoneum is not involved in the reflex, except in that peritoneal inflammation may cause kinks and adhesions of a hollow viscus which interfere with drainage and thus favor infection of the mucosa and establishment of the reflex sensory arc. The rigidity present in peritonitis is due to stimuli originating in the subserous nerve plexi of the parital layer, not to the visceral layer. Tubercular and pneumococcis peritonitis do not cause hyperalgesia or muscular spasm. Experimentally this has been proven by Kelling, who is quoted by Todd in "The Clinical Anatomy of the Gastro-intestinal tract" as follows:

"The fact that each nerve which distributes branches to the abdominal wall also supplies twigs to the alimentary canal accounts for the hyperaesthesia and local contraction found in a part of the abdominal wall in diseases of the canal. It accounts too, for the alimentary reflex, i.e., the relaxation of the abdominal wall with distention of the alimentary canal. This is the reason for the tightness of one's clothes after a heavy meal Owing to this reflex a dog can, and often does, double its abdominal contents at a meal without any inconvenience. That the arc is completed in the alimentary mucosa and not in the peritoneum is shown by the fact that the reflex is not called forth by the injection of air or saline solution into the peritoneal cavity." Clinical proof of this fact is suggested by a case operated by Ligat in which the gall bladder reflex was present in an acute cholecystitis, with empyema and ulceration of the mucosa, and in which although the pylorus and adjacent area was adherent to the gall bladder and was much inflammed, there had been no gastro-duodenal hyperalgesia area.

Proceeding next to the description of the hyperalgesia areas to be sought in lesions of the different viscera, they are divided by Ligat into two groups: Central, for the stomach and doudenum, small and large bowel; and Lateral, for the gall bladder, appendix and tube. The gall bladder point is at the junction of a horizontal line from the tenth rib and a vertical line midway between the nipple and midbody lines.

The appendix point is at the junction of the inner and middle thirds of a line from the umbilicus to the anterior superior spine. The tubal point, at the junction of the lowest two fourths of a line from the umbilicus to the middle of Poupart's ligament. The gastro-duodenal point is half way between the xiphoid and umbilicus.

The small intestine is represented by an area

just below the umbilicus spreading at times above and below.

The large bowel, by a point two thirds the distance from the umbilicus to the symphysis—but it is not as constant as the others.

The hyperalgesic area is not of much greater diameter than a silver quarter, but the hyperalgesia may spread up or down a short distance but only slightly laterally.

The gall bladder area may overlap that of the appendix and this area that of the tube but the gall bladder and gastro-duodenal areas though closely approximated never fuse. Fat abdominal walls hinder the elucidation of the reflex because of one's inability to grasp the skin and subcutaneous tissue properly. Pain is not always elicited on pinching but the patient says the area is more sensitive, or feels different, or the sensation is unpleasant in comparison with adjacent areas. In acute inflammations severe pain is usually provoked by pinching the area involved along a vertical band of skin corresponding to one, two, or three cord segments.

Several important statements in reference to this phenomenon may be formulated:

(1) There is a maximum point of hyperalgesia corresponding to each organ affected.

(2) The hyperalgesia extends from the maximum point vertically, mostly downward, but very slightly laterally.

(3) The vertical spread of the hyperalgesia allows of overlapping of contigious vertical areas, e.g., gall bladder and appendix.

(4) The absence of lateral spread always isolates lateral from central areas. (e. g., gall bladder from gastro-duodenal).

(5) The hyperemic condition following pinching persists longer over the hyperalgesic point than elsewhere.

The best method of obtaining the reaction was mentioned previously, that is lifting the skin and subjacent tissue away from the body wall. The sensitiveness of the skin in supposedly silent regions, as in the left hypochiudrium, should be investigated before approaching the area of expected reaction and pressure on the abdominal wall avoided. The direction of spread and the limitation of the hyperalgesic area should then be marked out. Certain difficulties and abnormalities should be given recognition and accounted for if possible. There may be two or more painful areas demonstrable or indeed the whole abdominal wall may be hypersensitive, as in extensive bowel infections, (e. g., intestinal influenza, gastro enteritis in children; diffuse peritonitis, etc.) When this is the case the reflexes clear up gradually, the appendix region the slowest, probably because of more lasting involvement due to poor drainage in the appendix with persistent infection. The appendix and small gut reflexes are often present simultaneously with normal skin between showing distinct lesions of each organ. An explanation may be found in the possibility of kinks of the ileum or adhesions binding it to the appendix or caecum, or in the fact that spasm of the ileum may be produced by infection of its mucosa, as a part of a general or local bowel involvement, most marked and finally localized solely in the appendix. In some instances the reflex can be obtained with difficulty or not at all. In severe peritonitis the extreme tenderness or the toxicity of the patient may render it unobtainable. Local inflammatory disease of the abdominal wall may interfere or if the patient is neurotic the findings may be equivocal especially if a real lesion is also present. The limitation and direction of spread of the painful area in neurotics is not characteristic nor constant. Absence of the reflex is not infrequent and the explanation of this may lie in the fleeting duration of the hyperalgesia, or in changes in the mesentery of the organ involved which block the impulses to the cord. Ligat observed a case of thrombophlebitis of the mesentery of the ileum in which the reflex was absent in spite of marked obstructive symptoms, and then noted in some cases of appendicitis without reflex-hyperalgesia that the meso-appendix showed marked infection, thrombosis or gangrene.

As to the positive value of the reflex in diagnosis and its dependability, sufficient observations followed by operative demonstrations have not as yet been recorded, but some striking illustrations of its possibilities are available. Ligat relates two instructive cases, one in which a woman of 57 years was operated in 1915 by Bland-Sutton for a strangulated right femoral hernia with resection of 6 inches of the ileum. One year later symptoms of partial obstruction developed, and a diagnosis of probable lesion at the seat of the resection was favored. There was a marked hyperalgesia over the large bowel reflex area and at operation a car-

cinoma of the pelvic colon was found. In a second case a diagnosis of hip joint disease was made in a 23 year old girl, based on flexion of the thigh and limping. Treatment made no improvement and on examining the abdomen to ascertain the condition of the ileo-psoas, a tender spot was discovered in an otherwise relaxed and insensitive abdomen, which proved to be a marked appendix reflex and a kinked and adherent appendix was removed, thus relieving the ileo-psoas spasm with rapid and permanent disappearance on the joint symptoms.

As this author states, the presence of this reflex may be the only method available in some obscure cases of chronic or vague abdominal pain for obtaining evidence as to the organ affected and in fact is often the means of "converting a subjective symptom into an objective sign" by watching the facial expression while eliciting the reflex. Per contra, the absence of this sign in the presence of clinical evidence of intra-abdominal lesion should not deter one from proceeding as indicated in these conditions. Its positive value is more useful and dependable than its negative value.

The relative value of the viscera sensory reflex (hyperalgesia) as compared with the viscero-motor reflex (spasm) as a sign of subjacent disease may be illustrated by the observation that spasm and tenderness in the absence of a hyperalgesic area, is produced by peritonitis of the parietal layer beneath the fingers and does not indicate any particular organ, (e. g., tenderness and spasm in the right iliac region may indicate a lesion of the tube, appendix, or a ruptured duodenal ulcer), while the presence of a painful area on pinching indicates the exact organ or viscus involved no matter what its location in the abdomen may be. We have all observed tenderness and rigidity over the usual site and found the appendix up under the liver. Where the appendix is retrocecally located, the early signs are those of an ordinary appendicitis, that is they are reflex in nature, and often subside and disappear early, thus explaining the atypical course pursued by many cases of retrocecal appendicitis following typical onset. This is more clearly illustrated by another of Ligat's cases; that of a 12 year old boy who showed the appendix reflex, rigidity in the right iliac region, localized tenderness, and absence of hyperalgesic areas, tenderness or rigidity elsewhere in whom on operation the appendix was found in the left hypochondrium. In another of Ligat's cases a diagnosis of perforated appendix was made in consonance with the severity of the symptoms and findings, but the operation failed to reveal any demonstrable pathology after thorough search of the entire abdomen. The appendix was removed and on being opened was found to contain a thorn sticking into the mucosa. The patient had shown an extremely well marked skin reflex and the findings in this case bear evidence of the role of the mucosa in inciting the reflex. We have all seen cases with severe symptoms which subsided in a few hours, and have operated cases and have been agreeably surprised at finding much less pathology than the findings indicated. Often there was a concretion in the lumen and in other cases the concretion may have been extruded, but it was nevertheless the irritation of the mucosa by the concretion which caused the severe reflex signs.

Statistics as to the confirmation of the clinical findings on operation are wanting except as reported by Ligat in The Oxford Surgery. He states that the reflex was present in 41 of 54 cases of cholecystitis, mostly calculous; in 195 of 243 cases of appendicitis; in 20 of 39 cases of tubal disease (some ectopics); and in 50 of 80 cases of gastric or duodenal ulcer.

As to the purpose and meaning of the visceral reflexes they are undoubtedly protective. When an organ is inflamed the sensitiveness of the reflex is exalted and the sensitiveness of the skin highly increased so that slight stimulation causes spasm of the protecting muscles over the inflamed area. The same is true of an inflamed joint which is reflexly protected by spasm of the nearby muscles. If the sensitiveness resided in the organ itself no pain would be felt until it was pressed upon directly, too late for any protective mechanism to be called into play. A peculiar feature of the reflex is that a lesion of any organ gives rise to the reflex at one point only, whether the lesion is extensive or limited; e. g., whether it be the entire gastric mucosa or only a single ulcer in the stomach or duodenum; or whether it be one or another part of the small bowel that is involved, the reflex is always to be elicited at a fixed point. Hence, as Ligat says "A common factor must exist in connection with each of these separate parts of the gut which is invariably at the same level in relation to its own segment of gut, and which is

capable of producing a hyperalgesic area in the skin and subcutaneous tissue."

The pyloric, ileo-colic and internal canal sphincters are constant in position, are developed from the same musculature and are innervated from the same source—the thoracic-lumbar sympathetic, whereas the rest of the muscle of the intestine is supplied by the bulbo-sacral system—by way of vagi and pelvic nerves. Gaskill believes that sphincters are developed from the musculature which belonged originally to the layer of subdermal muscles lying beneath the primitive ventral body wall, and when the embryo was short this layer formed a circular sheath around the entire gut, and as this elongated the sheath was broken and the fibers became grouped at the sites of the sphincters. This opinion is confirmed by the fact that these sphincters conform to the dermal musculature in their innervation, and in their reaction toward adrenalin. Hence, the mid-line reflexes are probably due to conditions which cause sphincteric spasm with its associated pain. Spasm of the bowel muscle causes pain also, but no tenderness, rigidity, or hyperalgesia of the abdominal wall, due probably to lack of a reflex arc. The gall-tract has the sphincter of Odl and as Ligat says it is conceivable that the gall bladder, appendix and tube possess a physiologic sphincter derived from the same muscular layer as the other alimentary sphincters which would explain the presence of their reflex arc.

THE "OPEN DOOR" POLICY IN ANIMAL EXPERIMENTATION.

About fourteen years ago, the Committee for the Protection of Medical Research of the American Medical Association began collecting facts relative to the use of animals in the laboratories of the United States. The inquiry soon disclosed that in a number of the older institutions there had existed for many years regulations prescribing humane treatment of animals before, during and, in case of continued existence, after operation. These scattered and diverse statements were gathered together, correlated, revised, and made generally applicable to different conditions. After the "rules" had thus been reformulated, the committee undertook to have them adopted by research institutions everywhere, in such manner that the director of each laboratory was made responsible for having them conspicuously posted and enforced. This was accomplished in practically all medical schools, in research institutes, in the veterinary schools where animal experimentation is carried on, and in most of the laboratories of the state boards of health. This nearly universal acceptance of a humane code of conduct in the experimental use of lower animals has placed medical research in a strong position when efforts to secure hostile legislation have been made.

A contention of the antivivisectionists, which they have repeatedly emphasized, is that animal experimentation goes on "in secret," "behind barred doors," where no one can know the "cruelties" that are being perpetrated. This charge was met in many instances by invitations to officers of humane societies to visit the laboratories at any time in order to learn the actual facts. Obviously, this attitude, if generally taken, would further strengthen the status of animal experimentation in the opinion of reasonable people; in fact, inquiry reveals that this "open door" policy has been accepted in all the medical schools except one, and in all the institutes for medical research in the United States.

Those who have opposed legislation to limit the use of animals for scientific progress have consistently contended that existing law against cruelty applies quite as much to laboratory workers as it does to any other citizens. In this view they were strongly supported by Governor Johnson of California, some years ago, when he vetoed a special measure directed against animal experimentation on the ground that the general law applied. If now there is any suspicion that animals are not humanely treated in research laboratories, the remedy is conveniently at hand. The enforcement of the rules, the adoption of the "open door" policy, and the applicability of the anti-cruelty laws do away with any need for any special restrictive legislation.—*Jour A. M. A.*, June 10, 1922.

TUBERCULOUS EMPYEMA.

Case histories are presented by Lewis H. McKinnie, Colorado Springs (*Journal A. M. A.*, Feb. 11, 1922), to emphasize that: (1) Open drainage in tuberculous empyema is an unsatisfactory and often a disastrous procedure when the end-results are considered. (2) Some may be delayed in onset or come on very rapidly. (3) The presence of other organisms in the pleural pus besides the tubercle bacillus—mixed infections—can be successfully treated by aspiration and air, which is contrary to the usual teaching. (4) The tuberculous basis of empyema is often overlooked. During the last few years, McKinnie has observed twenty-eight cases of tuberculous empyema with mixed infections. Eight of these were treated by aspiration and twenty by open drainage. Of the patients treated by open drainage, nine are dead, only one being considered as at all well. This was a patient treated by trocar and catheter, and he is at work and doing well. All of the others must be classed as more or less chronic invalids. Of the eight patients treated by aspiration, one is dead. All the others are working and in good health.

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EDITORIALS

RAY LYMAN WILBUR—PRESIDENT-ELECT A. M. A.

THE selection of Dr. Ray Lyman Wilbur as president-elect of the American Medical Association brings to that high office a man whose record is conspicuous for many achievements, and who has commanded recognition in many activities for marked ability in organization and leadership. Dr. Wilbur was born in Boonesville, Iowa, April 13, 1875, and removed to California when a boy. He was graduated by the Riverside High School, and received his A.B. degree from Stanford University in 1896, and the A.M. degree the year following. In 1899 he received his medical degree from Cooper Medical College of San Francisco, which later became the medical department of Stanford University. Following his graduation, he became instructor of physiology in his Alma Mater from 1896 to 1897; lecturer and demonstrator in physiology, 1899 to 1900, and assistant professor of physiology, 1900 to 1903. At this time he went to Europe and continued his studies at Frankfort on the Main and in London. He returned to California to take up the practice of medicine in 1909 and in that year was appointed professor of medicine at Cooper Medical College. He retained his professorship in medicine and practiced his profession from 1909 to 1916, and was dean of the medical school of Stanford University during the last five years of his professorship, 1911 to 1916. Following the retirement of President David Starr Jordan of Stanford University in 1913, Professor John Casper Branner, head of the geology department, was made president, with the understanding that he would retire at sixty-five years of age, two years later; at that time, the latter part of 1915, the trustees of Stanford University, in recognition of his extraordinary administrative ability, selected Dr. Wilbur for the position of president. His work in this position has fully justified the choice. With the entrance of the United States into the World War, Dr. Wilbur was called by another Californian, Mr. Herbert Hoover, to assist in one of the fundamental activities necessary to a successful prosecution of the conflict, as chief of the Conservation Division of the United States Food Administration. For this work, Dr. Wilbur has earned the gratitude of the entire civilized world. In 1919 he received the honorary degree of LL.D. from the University of California, and from the University of Arizona. At the 1920 session of the American Medical Association, Dr. Wilbur was appointed to the Council on Medical Education and Hospitals, and in this work he has shown a thorough insight and sympathy with the problems of the practicing physician and with the problem of satisfactorily coordinating the work of the social agencies with that of the medical profession. Dr. Wilbur is a member of many scientific organizations; was president of the American Academy of Medicine, 1917 and 1918. By elect-

ing him to its presidency, the American Medical Association has recognized a man typifying the highest ideals in medicine with a conspicuous gift for administration and leadership.

THE BUSINESS SIDE OF THE PHYSICIAN'S LIFE.

WHILE the majority of physicians, we think, subordinate the gainful side of their work to the professional service they render mankind, business aspects of medical practice cannot be ignored. Indeed, under modern conditions, the highest grade of professional medical service cannot be rendered without the aid of costly adjuncts beyond the reach of the neer-do-well.

The better class medical journals, however, have characteristically ignored to a great extent this unescapable and absorbing side of the doctor's life. They have left its consideration pretty much to the lower class of journals which are dominated, too frequently, if not completely controlled, by their advertising columns. This has too often given a nauseating odor to the subject.

That there is a journalistic opportunity and obligation in this direction for the doctor's own medical journal, we are convinced, and we believe the subject can be handled in an interesting and helpful way without offense to the most idealistic among us.

With this in mind we purpose devoting a special column in the Journal each month to a discussion of business topics, under the heading "The Business Side of the Physician's Life." That these discussions may be authoritative, we are calling on leading men in business and banking circles to write them for us. Some of these articles will be unsigned, others signed. In any case they will be contributions of the best thought and ideals of representative business leaders of Wisconsin, and as such will be of distinct interest and benefit to those readers who follow them carefully. The first article, prepared by a leading Milwaukee banker who prefers to remain unnamed, appears in this issue.

RESOLUTIONS OF AMERICAN MEDICAL ASSOCIATION.

The following resolutions were adopted by the House of Delegates of the American Medical Association at the St. Louis meeting in May. They outline and define certain opinions and policies on important questions for the membership as a whols and should be carefully read by all.

STATE MEDICINE.

The American Medical Association hereby declares its opposition to all forms of "state medicine," because of the ultimate harm that would come thereby to the public weal through such form of medical practice.

"State medicine" is hereby defined for the purpose of this resolution to be any form of medical treatment, provided, conducted, controlled or subsidized by the federal or any state government, or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable diseases, the treatment of mental disease, the treatment of the indigent sick, and such other services as may be approved by and administered under the direction of or by a local county medical society, and are not disapproved by the state medical society of which it is a component part.

SHEPPARD-TOWNER LAW.

WHEREAS, The Sheppard-Towner law is a product of political expediency and is not in the interest of the public welfare, and

WHEREAS, The Sheppard-Towner law is an imported socialistic scheme unsuited to our form of government, and

WHEREAS, The Shepard-Towner law unjustly and inequitably taxes the people of some of the states for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

WHEREAS, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, therefore, be it

Resolved, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged.

VOLSTEAD ACT.

WHEREAS, The medical profession has been subjected to criticism and unfavorable comment because of present conditions associated with the enforcement of the Volstead law, and

WHEREAS, The results of a referendum conducted by THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, covering 54,000 physicians, indicates that 51 per cent of physicians consider whiskey "necessary" in the practice of medicine, and

WHEREAS, The dosage, method, frequency and duration of administration of this drug in any given case is a problem of scientific therapeutics and is not to be determined by legal or arbitrary dictum, and

WHEREAS, The experience of physicians, as reported in THE JOURNAL, indicates that the present method of control, limitation of quantity and frequency of administration, licensure and supply of a satisfactory product constitutes a serious interference with the practice of medicine by those physicians who are convinced of the value of alcohol in medical practice, therefore be it

Resolved, That the House of Delegates of the American Medical Association, in convention assembled, representing a membership of over 89,000 physicians, appeals to the Secretary of the Treasury and to the Congress of the United States for relief from the present unsatisfactory conditions, and recommends that provisions be made for supplying bonded whiskey, *for medicinal use only,* at a fixed retail price to be established by the government.

RETIREMENT, DISABLED RESERVE OFFICERS.

WHEREAS, The disabled emergency officers of the Army are not receiving the same treatment as the other five classes of disabled officers who served during the World War, in that they are denied the privileges of retirement for physical disability as allowed all other disabled officers, regular and emergency alike; and

WHEREAS, It is obviously unjust and discriminatory to deny one class of disabled officers the rights and privileges accorded all other classes; and

WHEREAS, There is pending in Congress now legislation to correct this discrimination; therefore, be it

Resolved, That the House of Delegates of the American Medical Association be requested to urge upon the House of Representatives the passage of the Bursum bill at the earliest possible date, to the end that the disabled emergency officers may receive the treatment to which they are entitled.

VOCATIONAL TRAINING OF DISABLED SOLDIERS.

WHEREAS, the St. Louis Medical Society on May 16, 1922 by Memorial and Resolutions vigorously protested against the approval by the U. S. government of the School of Chiropractic as a means of vocational training for disabled ex-service men, and

WHEREAS, It apears that more than 250 ex-service men from all parts of the country, seventy of whom represent the Ninth District, composing the states of Missouri, Iowa, Kansas and Nebraska, are now enrolled in one Chiropractic School in this District with the sanction and approval of the U. S. government; therefore, be it

Resolved, That the House of Delegates of the American Medical Association, in annual session assembled representing over 89,000 legally qualified physicians, adequately trained in the arts and sciences (the only foundation for the recognition, control and prevention of disease), approves the sentiments expressed in the Memorial and Resolutions adopted by the St. Louis Medical Society, which have been submitted to this House, and hereby directs that the proper officers of the American Medical Association memorialize and petition the Federal government, particularly those officers charged with the responsibility for the rehabilitation of disabled ex-service men, and to take such action in the interest of the welfare of all the people, and also for the protection of those who honestly desire to adminster to the sick, to the end that the ex-soldiers seeking vocational training, which will fit them for ministering to the sick and aiding in the recognition, control and prevention of disease, shall, at least, meet the requirements and shall receive such adequate training as is defined in the classification of medical schools of the American Medical Assoeiation, known as Class A, or acceptable medical schools—a standard which is approved by all right-thinking people moved by a desire for public welfare.

A RETROSPECT AND A RECORD: AN EARNEST OF THE FUTURE.

THE topics dealt with by G. E. De Schweinitz, Philadelphia (*Journal A. M. A.*, May 27, 1922), in his presidential address before the American Medical Associa- its foundation, organization and reorganiza-

tion; early achievements in American medicine; progress during the existence of the Association; development in treatment of disease. Of this topic de Schweinitz says: The development of a medical literature written by American authors during the last sixty years has been characterized by ever-increasing excellence of the output, representing the results of clinical and clinico-pathological observation and research. Among these notable contributors the medical clinicians take prominent rank, including neurologists and pediatricians. More recent developments are also discussed briefly. Medical education, especially the part played by the Association in its development and improvement, is discussed at considerable length. He urges alteration of individual teaching and cooperative work so that the head of each department shall personally and practically become acquainted with the scheme of instruction carried out by every other department which has vital relation with his own, and present his material accordingly, or what he terms "elimination of the 'packet system.'" He suggests that a plan calculated to obviate this fault could be put in operation by the appointment, for example, of a member of the faculty who, in addition to his scholastic duties, should be a liaison officer, and who should be empowered (he must be a man of tact, intelligence and force) to supervise the cooperation suggested, correlate the instruction, and put out of existence the "packet-system." The dean of a Faculty, even if he has "authority to carry out fair ideals of medical education," is too burdened with executive and business duties to fulfill satisfactorily the functions of a coordinating officer defined in this regard. It is just for this reason that certain medical institutions have appointed in addition to the dean as ordinarily employed, a dean of students. What is needed, however, is a dean of teachers, not in name, but in actual practice. If the student is to be fed properly educationally, he must have a much more evenly balanced diet. Reference is made to graduate medical courses based on university-extension services, as they are already in operation, notably in one state. Therefore, where a university system includes a school of graduate medicine, it can carry its educational efforts to groups of physicians found in selected localities. Questions relating to this whole matter, that is, in general terms, to the readjustments in medical practice (which, be it remembered, are not only impending, but are in operation), with due regard to the evaluation of the rights and requirements of the practitioner and the public, complicated as they are, none the less demand investigation, which shall eventuate in their satisfying solution. The trustees of the American Medical Association are now conducting a survey which, it is believed, will help to solve many of the problems now before the medical profession. The advancement of medical effort, the improvement of medical education, the highest type of medical service in the cure of the sick and injured, and the conservation of health, the protection of medical and public interests, leadership in all the phases of medical activity and the maintenance of ethical standards—these are the agenda of our Association.

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ESSENTIAL HEMATURIA

REPORT OF UNUSUAL CASE

BY IRA R. SISK, M. D.,
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MADISON

A man, aged thirty-four years, strong and robust came to the Clinic on March 7th, 1919, complaining of a painless hematuria of three weeks duration. He was referred to a Urologist in a nearby city, but apparently a definite diagnosis was not made; at least no treatment was administered. He returned to the Clinic on July 25th, 1921, in a very anemic condition, and said that the hematuria had been continuous since it began in March 1919. On close questioning, however, the information was elicited that in the Spring of 1921, after more than two years, during which there are macroscopic blood in the urine continuously, he had a rather severe pain on the right side, passed a large clot, and for the succeeding three weeks the urine was nearly clear. After this the bleeding became quite profuse again and continued so to date. For six months he had been too weak to do much work and at that time was able to walk only a short distance at a time.

Physical examination—Patient was a large, well developed man, markedly anemic; appeared very tired (Nothing else of importance in physical examination.)

Urinalysis—Specific gravity—1025; reaction-acid; R. B. C.—4 plus; pus—1 plus.

Blood pressure—Systolic—125; diastolic—70.
Hemoglobin—22%; R. B. C. 4. 4; W. B. C.—9000

On cystoscopic examination the bladder and urethra appeared normal. Very bloody spurts of urine were seen coming from the right meatus; clear urine was seen coming from the left. Both ureters were catheterized and the differential functional test with phenol-sulphone-phthalein gave a return of 12½% from the right and 16% from the left in fifteen minutes.

Microscopic examination of the specimens of urine collected from the ureteral catheters showed R. B. C. IV on the right. There was no pus on either side. A pyelogram was made on the right side and showed a normal kidney outline.

The diagnosis of essential hematuria was made. The patient was sent to the hospital and five days later the renal pelvis was filled with 1% solution of silver nitrate. This was repeated in another five days and in twenty-four hours after the second treatment the urine was entirely free from blood, both on macroscopic and microscopic examination and has remained free to this date. Patient's general condition improved rapidly; his hemoglobin went up from 22% on July 25 to 40% on August 8th; he now feels normal, works regularly and has not had a recurrence of the hematuria.

This case is of especial interest because of the unusually long period of time over which the hemorrhage continued without interruption. The usual history in cases of essential hematuria is that of bleeding over a period of a few weeks to a few months (usually not more than six or eight months), after which the hemorrhage ceases for an indefinite period of time; or, if the hemorrhage does not cease of its own accord, it becomes necessary for the patient to have it checked by some means to prevent death from the loss of blood. It is hardly conceivable that the bleeding could continue for practically thirty months, as it did in this case, without resulting in death.

The diagnosis in essential hematuria is one of elimination. If, after a complete urological examination, the function of both kidneys are found to be about normal; there are no symptoms other than the hematuria; there is no evidence of nephritis and no infection in the kidneys; the pyelogram shows the pelvis and calyces of the kidney to be normal in appearance, one is justified in making the diagnosis of essential hematuria. The diagnosis should not be made, however, when the examination has not been complete and every other possible condition excluded.

SUBCUTANEOUS RUPTURE OF THE ABDOMINAL VISCERA, WITH REPORT OF CASES.*

BY DR. S. R. WETZLER

MILWAUKEE

The following paper is based on a series of cases which have occurred in the writer's practice during the past few years. All but one of them have been the result of industrial accidents. Several of the cases to be reported do not properly come under the category of injuries to the abdominal viscera, but were subcutaneous ruptures of muscles and will be merely described for their interest in that relationship. I shall not go into the theory of the mechanics of subcutaneous rupture of viscera other than to mention that blows to the abdominal wall frequently produce injuries to the intra- and retro-peritoneal organs without any visible external evidence of contusion or penetration of the wall itself.

Given a patient with a history of an abdominal blow sufficient to cause any degree of symptoms, the surgeon is immediately confronted with the question of whether these symptoms are produced by contusion to the subcutaneous tissue or muscular wall or by a rupture of the deeper organs. The answer to this problem will in itself furnish the diagnosis and determine the subsequent treatment. In treating this subject, I shall put the cart before the horse, and consider first the most serious problem—injuries to the intra-abdominal organs, because if we can once exclude that, the lesion of the wall itself becomes of secondary importance.

Injuries to the abdominal viscera can be grouped into several classes: 1st, those of the hollow organs as stomach, intestine and bladder; 2nd, mesenteric injuries—without rupture of the intestine; 3rd, those of the solid viscera as liver, spleen, kidneys and pancreas. It is well to remember that the hollow organs are more prone to be ruptured when distended than collapsed.

The prime essential in all these forms of injury is a history of a blow or crush to the abdominal wall. Following this, the symptomatology will depend of course on the individual viscera involved but in all cases we may consider them under the heads: Primary and secondary symptoms and general and local signs.

*Read before the Wisconsin Association and Industrial Physicians and Surgeons, Milwaukee, November, 1922.

Inasmuch as the secondary or late findings are merely those developing upon a delayed diagnosis or a primary overwhelming injury, suffice it to say that these secondary symptoms are those of an infection—such as a peritonitis or cellulitis, or gradual exanguination due to continued hemorrhages. It is all important that a diagnosis of intra-abdominal injury be made at the very earliest possible time, because to delay until secondary or confirmatory symptoms appear means that the mortality rate greatly increases by every hour lost.

Under general symptoms we can say that they are usually those common to all severe injuries: 1st, pain which is referred to the neighborhood of the involved organ; 2nd, those due to hemorrhage and shock.

In the rupture of the stomach or intestine pain is nearly always intense and immediate, due to peritoneal irritation, and is localized by the patient to the site of the lesion. Frequently a one-half grain of morphine is insufficient to allay the pain which gradually becomes more generalized as the gastric or intestinal contents pour out over the peritoneal surface. Signs of hemorrhage in rupture of the stomach or intestine are usually not very marked at an early period, unless one of the larger vessels is involved in the tear, and in this respect rupture of the hollow viscera differs quite essentially from injury to parenchymatous organs as the liver or spleen. Shock occurs early and is often a prominent and valuable symptom, but is frequently difficult to determine from hemorrhage. The patient if he vomits may show blood or pass blood in his stools, although neither of these signs are essential and when absent should not deter one from making a diagnosis.

The primary local findings are tenderness and rigidity. The former is generally exquisite and pretty well defined and the rigidity marked and boardlike. Both of these signs are of the utmost value in making an early diagnosis, but within a few hours both tenderness and rigidity become more generalized, and I have often observed them to become more prominent in the right iliac region probably due to gravitation of the fluid along the mesentery into the right iliac fossa. Morphine in the usual dose has only slight influence in ameliorating tenderness and rigidity, but I would warn against its use—until a diagnosis is made and a plan of treatment adopted, on account of the possibility of its masking symptoms in some cases. Obliteration of liver dullness although frequently described as a common finding, in my experience has been difficult to determine and of little value in making a diagnosis. Likewise dullness in the flanks rarely occurs early unless there has been a severe hemorrhage or a large amount of contents poured out through the rupture. One symptom which may be of value and which the late Dr. Murphy always laid much stress upon, is absence of borborygmus as determined by a stethoscope applied to the abdomen—the explanation lying in the fact that peritoneal irritation inhibits peristalsis. It sometimes happens in this class of injury that the mesentary of the intestine is torn without any actual rupture of the gut. I know of no way in which this condition can be determined from actual rupture prior to operation.

In considering subcutaneous rupture of the bladder, the same general symptoms occur as related above. Where the rupture is intra-peritoneal the primary pain and shock are usually more severe than in extra-peritoneal rupture. Severe pain is present over the bladder region with localized tenderness and rigidity. Inability to voluntarily pass urine is a prominent symptom and when the patient can void, only small amounts of bloody urine may be passed. To my mind it is inadvisable to introduce either a catheter or cystoscope if this can be at all avoided but never to irrigate the bladder to determine a diagnosis. Untreated or unrecognized intraperitoneal rupture of the bladder does not necessarily lead to peritonitis, but may cause urinary ascites. In extra peritoneal rupture there is an accumulation and extravasation of urine into the soft tissue of the perineum and scrotum with later the development of cellulitis.

Subcutaneous rupture of the liver or spleen can often be diagnosed from a similar injury to the hollow organs; the most distinguishing feature being an early, I might say immediate, development and rapidly increasing signs of concealed hemorrhage associated with marked shock. Such a case once observed can never be forgotten. On account of the friable nature of these organs and their rich blood supply with no counter pressure to control the source of bleeding, hemorrhage rapidly and freely occurs into the peritoneal cavity. The white lips, blanched face and pinched features, marked air of hunger and thirst, cold perspiration, with progressively increasing pulse and corresponding decrease in blood pressure are sufficient

to tell their own story to the trained observer. In addition there exists pain and tenderness over the chest wall covering these organs. To wait until dullness in the flanks occur means to wait until your patient has filled up his belly with his own blood.

Subcutaneous injuries to the kidney are usually the result of direct violence to the loin. The degree of damage may vary from a slight contusion to an actual rupture with corresponding variation in the symptomatology and degree of shock and hemorrhage which the patient may display. As a rule the signs of hemorrhage are not very prominent at first because of the counter pressure which may be exerted by the surrounding tissue. The local signs consist of hematuria, localized pain and tenderness and rigidity, and often swelling in the kidney region. Of these hematuria is the most constant. In exceptional cases hematuria may be absent, especially when the injury is mild and limited to the cortex, or when the ureter has been blocked or torn off from the pevis: hence the degree of hematuria is no criterion as to the extent of the kidney injury. Localized pain and tenderness in the loin and frequently tenderness and rigidity of the outer abdominal wall are present from the onset. Murphy's kidney percussion also is a valuable sign. Where rapid extravasation of blood and urine occur into the perineal tissue, an ill defined boggy swelling may be made out, but the absence of such swelling—particularly when the case is seen early does not negative a diagnosis of kidney rupture.

Rupture of pancreas, on account of its protected position seldom occurs unless associated with lesions of other organs, because of very severe trauma. It has seldom been recognized alone prior to operation.

Rupture of distended and enlarged gall bladder or ovarian cysts, etc., may also occur from abdominal contusions and in such cases present signs of a rupture of a hollow viscus, and seldom can be differentiated therefrom prior to operation.

Simple trauma to the abdominal wall is frequently difficult to recognize from intra-abdominal injuries. Pain is seldom as severe or agonizing as in rupture of viscera. Tenderness and rigidity when present are elicited by more superficial palpation. Shock is rarely marked and not infrequently entirely absent, thereby giving a valuable clew in ruling out more serious involvement. In some cases fracture of the lower ribs complicates the condition and in such patients the diagnosis becomes still more uncertain. In all cases when the slightest doubt exists this should be resolved in favor of immediate exploratory laparotomy instead of waiting longer than one or two hours for the development of confirmatory findings. Where signs of concealed hemorrhage are present "watchful expectancy" even for one or two hours is absolutely contraindicated. Morphine should never be given until a definite course of action has been decided upon.

In no condition that I know of is it more imperative for the surgeon to base his diagnosis and his course of treatment upon a few prominent and early symptoms instead of delaying for the development of the onset of signs which can only mean a beginning peritonitis or an exanguinated patient. Far better to risk an unnecessary operation in a few cases than to wait until the patient is almost moribund. Even in those cases of suspected kidney injury where only slight hematuria is found with or without shock no man can determine the extent of the kidney damage in all cases.

In rupture of the hollow organs a median laparotomy will almost instantly disclose free fluid or blood in peritoneal cavity but the absence of these does not warrant an immediate closure without a thorough inspection of every inch of gut, mesentary, stomach and bladder, as well as examination of all palpable organs. When found the lesion must be repaired by suture, or resection if necessary. Hemorrhage from the liver or spleen may tax our ingenuity, but is best controlled by suture or pack. Sometimes it may be possible to pack or suture the omentum into the wound. Splenectomy must occasionally be done, as in two of my cases. There is no rigid rule as to drainage. Proper measures to counteract shock and hemorrhage should be instituted and I have found in rupture of liver or spleen—leaving a quart of hot saline solution in the abdominal cavity—a very efficient procedure.

For kidney injury the usual lumbar exploration will usually suffice although it may be necessary to also open the anterior abdominal wall when indicated—such a case is presented in this series. Repair of the kidney by suture or pack is the method of choice when feasible—nephrectomy when too severe destruction of the kidney has occurred.

Case 1. Mr. F. A carpenter working for Filzen & Co. fell a distance of twenty feet landing on his left side. First aid given by a neighboring Doctor, who thought patient had fractured ribs and administered morphine. Patient came under my care within an hour. He then showed signs of concealed hemorrhage with tenderness rigidity over the left rectus muscle in the hypogastric region, also agonizing pain and tenderness over the left costal arch. No sign of injury to the abdominal wall was present. A diagnosis of ruptured spleen was made. Through a left rectus incision this was confirmed and the spleen found ruptured along its entire convex surface. It was impossible to deliver it for suture and packing did not seem to control the hemorrhage. A splenectomy was done and the patient made an uneventful recovery. He returned to work within three months.

Case 2. Mr. H. P., employee, Wis. Iron & Wire Wks. was demonstrating how to cut a pattern on a circular saw. This struck a knot in the wood, which was thrown back by the saw against his abdomen. I saw the patient within one-half hour. He was in severe pain chiefly over the right iliac region. Moderate shock was present with definite localized rigidity and tenderness. A diagnosis of ruptured intestine was made. On opening the abdomen intestinal contents was immediately found. About one foot from the iliocecal valve a rupture of the ilium was found about the size of a penny. This was repaired by the usual method. The intestinal contents were moped out and the abdomen closed without drainage. Recovery was absolutely uneventful.

Case 3. In contra distinction to the above case I want to report a case of contusion to the abdominal wall. This patient Mr. N. L. worked for the Milw. Coke & Gas Co., a valve exploded, blowing out the iron door which hit the patient over the abdomen, throwing him for a distance of twenty feet. I saw the patient within one-half hour. There was absolutely no sign of shock. No localized tenderness or rigidity, but the entire abdomen was spastic. Patient complained of severe generalized abdominal pain. When placed in bed and hot compresses applied, the abdomen relaxed somewhat and the pain also subsided to a degree. He was watched for two hours without any evidence indicating more deep seated trouble. The diagnosis of simple severe contusion of the abdominal wall was made. Patient left the hospital after one week.

Case 4. Miss F. was in an auto accident. The auto turning turtle. I saw the patient about three-quarters hour after the accident. She was conscious and complained of agonizing abdominal pain, but was in most profound shock with typical signs of severe internal hemorrhage. There was no mark or scratch on her entire body. Tenderness and pain and rigidity were most marked in the upper abdomen. A diagnosis of ruptured liver was made and patient taken to a hospital. She died on the operating table just after an abdominal incision was made. Enormous amount of hemorrhage was found in the abdomen and the liver fractured almost in two. This case was hopeless from the onset.

Case 5. Mr. K. worked for the A. O. Smith Co. This case was seen in consultation with Dr. Oakland. A fly-wheel broke hitting the patient over the left side of chest and abdomen. When I saw the patient he was in extreme shock with the left side of his chest crushed in and his left lung punctured. Patient also showed signs of internal hemorrhage with tenderness over the left upper portion of the abdomen. A probable diagnosis of rupture of the spleen was made, but the patient was in such poor shape having developed an acute edema of the lung that no operation was thought advisable. Under morphine and atrophine the patient rallied and within twenty-four hours his condition improved so remarkably that it was thought a diagnosis of a ruptured spleen was probably a wrong one. The patient was kept in bed with stimulation and other treatment for a period of about three weeks when he was allowed to get up out of bed. At this time he was greatly improved and allowed to walk around. Within a day or two after being up, the patient suddenly collapsed and went into marked shock again showing signs of concealed hemorrhage. A diagnosis of a secondary hemorrhage from a probable ruptured spleen was made at this time and the patient operated upon. Large amounts of clotted and fresh blood were found in the abdomen and the spleen was found ruptured almost in two with an old blood clot between the two parts, and a hemorrhage developing at the site of the old rupture. A splenectomy was done and the patient made an uneventful recovery as far as his abdominal condition was concerned. This case is remarkable from the fact that he recovered from his first internal hemorrhage and then developed a secondary hemorrhage from a spleen which had been fractured almost in two.

Case 6. F. S. Patient was working for Milw. Coke & Gas Co., building a fence along a railroad track. A locomotive jumped the track, killing one man and squeezing this patient between the fence and the engine. This case was first seen and diagnosed by my associate, Dr. Curtin. I saw the fellow ½ hour after the accident. He had intense pain in the right lumbar region. There were a few superficial scratches in this area. Marked tenderness and rigidity in costo-spinal angle with some tenderness and rigidity of the upper right rectus muscle. Moderate shock existed and macroscopic blood present in the urine. Operation one hour after injury. The upper pole of kidney was ruptured but in addition it was noticed that the overlying peritoneum appeared bluish and free fluid seemed to be recognized through it. The peritoneum was opened and free blood present. Because of the uncertainty of knowing whether or not any intra-peritonal organ was involved anterior laparotomy was also done. This disclosed considerable intra peritoneal hemorrhage but no other injury to the abdominal contents. The peritoneum in the kidney pouch high up at the angle between the kidney and liver was found torn through where the kidney had evidently been

forced through it, accounting for the intra peritoneal hemorrhage. It was impossible to suture the peritoneum in this angle so the space was packed and drained. The kidney was also drained posteriorly. On the second day the patient's abdomen became exceedingly distended and he developed regurgitation of frequent amounts of clear fluid from his stomach, with inability to pass flatus or feces. Temperature 104 and pulse correspondingly rapid. We were confronted with the question of a beginning peritonitis or an intestinal obstruction or acute dilatation of the stomach. Feeling that possible the gauze pack down to the kidney pouch was constricting the transverse colon over which it passed, we promptly removed the pack. This very efficiently relieved all his abdominal symptoms and from then on he made an uneventful recovery.

Cases 7, 8, 9, 10. These are cases of subcutaneous rupture of muscles.

Cases 7 & 8. Mr. K. and Mr. B. both worked for an ice company. The first patient was walking alongside his wagon last winter, when the wagon skidded and rolled him between it and a telephone pole. No external sign of injury but a marked depression existed between the crest of the ilium and gluteal muscle. Operation disclosed the entire gluteal muscle torn off from the crest and part of wing of ileum. Mr. B. was run over his buttocks by the ice wagon. Again no external sign of injury but a depression over the lower part of the ileum and down to the thigh. Operation showed a subcutaneous rupture of the lower fibers of the gluteal muscle.

Case 9. Mr. F. worked for Hilty Lbr. Co.; the edge of a heavy plank hit him just above the right patella. No external sign of wound present but a separation of several inches existed between the patella and the rectus femoris muscles. Operation disclosed a subcutaneous rupture of the rectus femoris tendon.

Case 10. Mr. O. T. was demonstrating how he could lift a five gallon can of gasoline with his little finger. He raised it to about a level with his shoulder, when he felt a sudden snap in his elbow and dropped the can. A rupture of the biceps tendon had occurred tearing it off from the radius.

In all the above muscle cases repair was down with perfect recovery.

PERFORATING ULCERS OF THE CECUM.

The three cases reported by G. K. Dickinson, Jersey City, N. J., (*Journal A. M. A.*, June 10, 1922), are descriptive of three types of ulcerations which may occur in the cecum. In one case there were large, sloughy ulcerations, probably a hemorrhagic cecitis, a type of lesion which, when it occurs farther along in the large intestine, is called dysentery. The other two cases seem to be explainable only on the grounds of primary inflammation of the adenoid tissue of the cecum.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

WHERE WISCONSIN LAGS

A STUDY OF
TUBERCULOSIS MORBIDITY REGISTRATION IN WISCONSIN, WITH A PLEA FOR BETTER REPORTING BY PHYSICIANS.

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Whether or not Wisconsin lags in any particular is largely a matter of viewpoint. In the fight against tuberculosis, for instance, notable results have been achieved. In 1921, the death rate from tuberculosis in Wisconsin was approximately 75.0 per 100,000 population, a decrease of 10 per 100,000 over the preceding year, 1920. This remarkable drop in the tuberculosis death rate was wholly unexpected because the rates had previously declined more gradually. Some competent observers ascribe the unexpected drop during 1921 to the fact that many tubercular patients and others susceptible to the disease perished during the influenza epidemics of 1918 and 1920. This, of course, is purely a surmise but a truly interesting one. It fails to take into account the strenuous efforts put forth by official and voluntary health organizations in preparing the people for more intelligent living. Whatever may have been the reason, the phenomenon is most difficult of satisfactory explanation.

In view of the marked reduction in the tuberculosis death rate it may seem impertinent at this time to discuss the subject of registration of cases of tuberculosis. The physician especially feels that the requirement for registration of cases of communicable diseases, including tuberculosis, is frequently an imposition upon his time and patience. This feeling has undoubtedly arisen because the uses to which morbidity reports are put have not been satisfactorily or adequately ex-

plained. In view of these conditions the present article is intended to show, 1st. that tuberculosis registration in Wisconsin is markedly defective, especially in rural districts; 2d. that better morbidity reports are needed; and 3d. that increased registration of cases of tuberculosis may aid decidedly in reducing still further the prevalence of the disease.

Wisconsin does lag! The State has lagged in the registration of tuberculosis cases ever since notification of this sickness became a requirement. Not once has the number of registered cases exceeded the number of registered deaths from tuberculosis. This undoubtedly means that many cases of tuberculosis are unknown to local health authorities and conceivably some patients, even though receiving treatment from physicians, are not so supervised as to preclude their becoming foci of infection. This statement is not intended as an indictment of the entire medical profession but only of some individuals. When, for example, a physician confesses that he is ignorant of the fact that tuberculosis is reportable, it is conceivable at least, that this practitioner may not be familiar with the measures for preventing the spread of the disease.

Where and why does Wisconsin lag in tuberculosis morbidity registration? These are points of vital interest to those attempting to lessen the ravages of the disease. A study of this kind may be approached from several angles; 1st. by dividing the state according to certain population groups; 2d. by determining the tuberculosis case rates per 100,000 population in these subdivisions; 3d. by calculating the case-fatality ratios (number of tuberculosis deaths per 100 reported cases) in the same subdivisions, and 4th. by estimating the tuberculosis death rates per 100,000 population in the subdivisions.

For the purpose of fixing the responsibility for inadequate morbidity registration five units have been chosen:

1. The entire state.
2. Cities, i e., municipalities of 10,000 inhabitants or more in 1910.
3. "Rural districts," i. e., smaller places having less than 10,000 inhabitants in 1910.
4. State omitting City of Milwaukee.
5. City of Milwaukee alone.

It should be noted that the division into cities and rural districts is an arbitrary one adopted for statistical purposes only. It affords a means in the present study of locating deficiencies in tuberculosis morbidity registration. Moreover, it is the method used by the Bureau of the Census in presenting certain features of mortality statistics.

In presenting the information derived during the present study three statistical tables and three graphic representations have been prepared. The first table (Table I), gives the tuberculosis case rates per 100,000 population in the units already specified. It is immediately apparent that the City of Milwaukee, with a case-report rate of 217.5 excels by a liberal margin the remaining units. The 18 principal cities (included as a unit) rank next with a case rate of 138.7 per 100,000, while the rural districts submit the fewest case reports, the rate being 27.1 per 100,000. These facts are vividly conveyed in the graphical chart numbered 1.

TABLE I.

Tuberculosis Case rates per 10,000 population in Wisconsin and certain subdivisions, by years, from 1911-1920.

Years	Whole State	Cities	Rural	State without Milwaukee	Milwaukee Alone
1911	39.2	97.4	11.1	14.8	164.5
1912	50.5	126.9	12.9	17.5	215.1
1913	69.5	158.0	25.0	33.8	243.0
1914	72.2	154.1	30.3	36.2	242.0
1915	71.4	162.9	24.0	32.9	252.0
1916	63.6	142.8	21.9	27.7	231.0
1917	83.3	139.0	53.4	55.0	210.0
1918	72.6	159.6	25.1	34.8	239.0
1919	63.6	126.1	30.8	35.4	186.0
1920	67.3	120.2	37.1	41.2	193.0
Averages	65.3	138.7	27.1	32.9	217.5

Information of somewhat similar import, but from a different angle, is given in Table II. Here is shown the case-fatality ratios or number of deaths per 100 reported cases of tuberculosis. It will be apparent that the cases of tuberculosis are most efficiently reported in Milwaukee, where a ratio of 44.2 maintains over a ten-year period. On the other hand the case reports are most inadequate in the rural districts, in which the case-fatality ratio is 411.5. The combined larger cities, with a ratio of 76.7 again occupy an intermediate position. These facts are visualized in the graphical representation numbered 2.

TABLE II

Tuberculosis death rates per 100,000 in Wisconsin and certain subdivisions, by years from 1911-1920.

Years	Whole State	Cities	Rural	State without Milwaukee	Milwaukee Alone
1911	260.0	123.0	855.0	682.0	64.6
1912	196.5	85.1	745.0	565.0	45.5
1913	139.0	71.0	365.0	281.0	41.8
1914	114.5	71.1	313.0	214.0	42.3
1915	110.5	63.6	386.0	233.0	36.6
1916	122.5	70.6	406.0	272.0	39.3
1917	99.5	73.4	180.5	146.5	44.2
1918	131.1	65.6	358.0	270.0	42.0
1919	128.5	69.5	290.0	233.0	42.2
1920	125.0	74.5	217.0	204.1	44.2
Averages	142.71	76.74	411.55	310.06	44.26

Lest it be thought that there is a wide disparity between the death rates in the different units certain vital facts have been combined in Table III. It will be seen that the widest variations in death rates, 103.9 and 86.7, exist between the cities combined and the state without Milwaukee. The death rate per 100,000 in rural districts is 91.7, lower, it is true than the rates either in the cities (103.9) or in Milwaukee alone (98.6).

TABLE III.

Tuberculosis death rates per 100,000 in Wisconsis and rertain subdivisions, by years from 1911-1920.

Years	State Whole	Cities	Rural	Milwaukee without State	Alone waukee Mil-
1911	103.3	120.0	95.8	101.0	107.7
1912	99.3	108.0	95.5	99.0	98.1
1913	97.4	112.0	91.0	95.5	105.0
1914	99.5	109.3	95.5	78.5	106.2
1915	95.8	103.8	93.0	76.5	97.2
1916	92.1	101.0	89.5	75.5	97.2
1917	97.3	102.0	96.5	80.0	101.0
1918	94.8	104.8	90.0	94.0	106.0
1919	84.1	88.0	89.5	82.7	83.4
1920	84.2	91.0	81.0	84.3	85.0
Averages	94.7	103.9	91.7	86.7	98.6

An examination of this table and the graphic representation (Graph 3) shows clearly that there are not sufficient differences in the death rates to account for the manifest deficiencies in the registration of cases of tuberculosis. There can, therefore, be no serious question that morbidity registration of tuberculosis is markedly deficient in that portion of the State in which the communities have populations less than 10,000. Obviously, efforts directed towards the improvement of this registration must be directed largely towards the localities specified.

More complete morbidity reports are, of course, a vital need in the modern public health order. Only through an accurate knowledge of "when, where and under what conditions communicable diseases are occurring" can effective combative measures be prescribed. The conception of many physicians that the demands of public health officials for accurate morbidity reports are unwarranted impositions, must, if possible, be altered. Behind the desire for prompt case reports is a very definite purpose. This purpose is the utilization of the most important information available, namely, the character and location of persons suffering with communicable disease.

In attempting to excuse their failure to meet the notification requirement many physicians frankly express the belief that the information afforded is not used by public health authorities. Others feel that these data are used as statistical footballs, thereby affording mental gymnastics for certain office holders. However, it is desired to demonstrate, if possible, that vital statistics are living, breathing and vital things. Without them the worker must grope on the darkness of the public health field. Without them progress in reducing the prevalence of communicable diseases must necessarily be slow and unsatisfactory.

While the present article deals with the need for tuberculosis morbidity registration the principles expounded are equally applicable to other communicable diseases. The advantages accruing from the reporting of cases of tuberculosis are at least five fold:

1. To the patient.
2. To the family and associates of the patient.
3. To the attending physician.
4. To the general public.
5. To official and voluntary health organizations.

When a case of tuberculosis is made known to a public health official, through a proper report, the patient is automatically placed under public health control. The thoroughness of such control depends, of course, upon the efficiency of the health official having jurisdiction. This does not imply that curative supervision exercised by the

attending physician is to be disturbed but merely that prescribed measures for preventing the spread of the disease are to be applied. It is usually difficult for a busy practitioner either to be conversant with public health control measures or to spare the time necessary for the proper exposition of the subject. The skilled public health worker, on the other hand, can advise, instruct and even supply materials which will aid in localizing the infectious agent as well as contributing to the recovery of the patient.

That combined public health and curative supervision of a tuberculosis patient are beneficial to the patient are obvious. When such a patient is properly registered public health supervision will be continued when he is not actually under the care of a physician. When he moves to another locality it is usually possible to continue the supervision. This constant solicitude for the welfare of the patient cannot but redound to his benefit.

Recently another and unexpected benefit to the tuberculosis patient has accrued through the physician's report to the local health officer. The United States Veterans' Bureau, in adjudicating claims for compensation by ex-service men, is requiring, as proof of the tubercular condition, evidence of the report of the case to the health authority having jurisdiction. When such a report has not been made in accordance with the provisions of the State law, the Veterans' Bureau maintains that prima facie evidence of the tubercular condition for which compensation is claimed, is lacking. Consequently, through neglect or carelessness the physician may have jeopardized the legitimate claim of his patient.

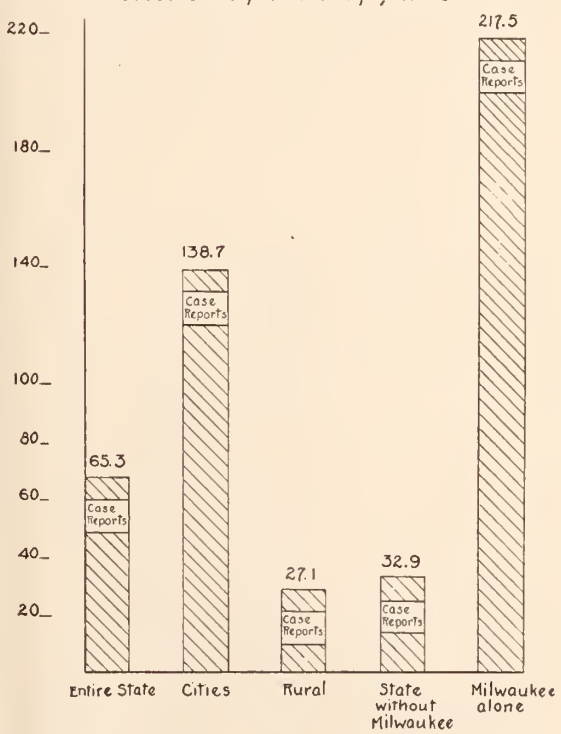
That the family and associates of a tubercular patient may be placed in better position to protect themselves against infection through the guidance of skilled public health workers, has frequently been demonstrated. Not only through appropriate advice and instruction, but by means of periodic physical examinations these "contacts" may receive invaluable prophylactic instruction. When the patient is not known, the "contact" escapes supervision.

Morbidity reports are essential, as has already been pointed out, because they safeguard the legal rights of the patient. When the physician fails to preserve these rights he lays himself open to criticism, censure and perhaps a damage suit. Therefore, the physician himself has a very definite moral and legal responsibility as well as pecuniary interest in submitting reports. Then, too, when the practitioner complies with this provision of the law, he improves his patient's chances of recovery by encouraging the application of control measures. Incidentally the educational value of these measures upon all persons who have the opportunity of observing them must be considerable.

The value to the general public of morbidity registration is undoubtedly very definite. Such action limits to a marked degree foci of tubercular infection incidentally and arouses observant persons to a realization of the appropriate means of avoiding other communicable diseases. There is undoubtedly an economic benefit accruing to the public through the reduction of communicable disease prevalence. This is a factor seldom considered but perfectly tangible.

GRAPH I

TUBERCULOSIS case rates per 100,000 population in Wisconsin and certain subdivisions, based on 10 year average, 1911-1920

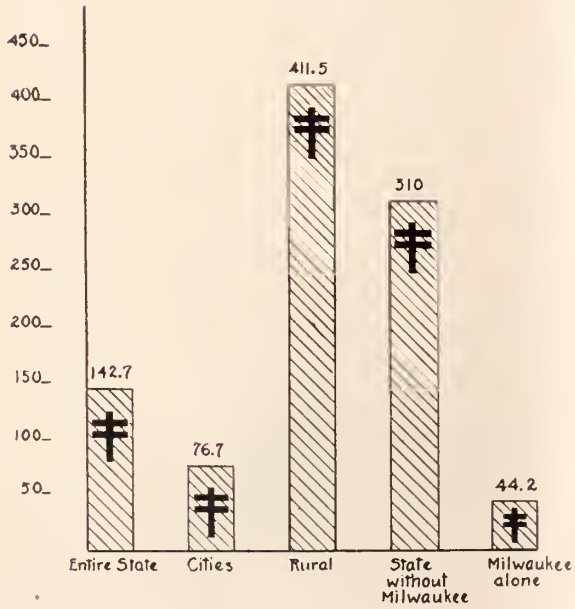


Morbidity reports are highly important adjuncts to all public health agencies. Only by knowing the amount of disease prevailing can an organization direct its efforts intelligently or evaluate the efficiency of the work performed.

Having shown that tuberculosis morbidity registration is woefully inadequate in certain portions of the State and attempted to show that such notification has manifold uses, it is deemed justifiable to direct the attention of physicians to the necessity for reporting their cases. No longer can the physician regard the morbidity report as an imposition upon his time and patience. It is, on the other hand, a moral and legal obligation which safeguards life, health and happiness to a far greater extent than is revealed by casual observation. The physicians who have not been reporting their tubercular cases, particularly those in the so-called "rural districts" should henceforth, for the reasons already stated, perform their full duties as regards morbidity registration.

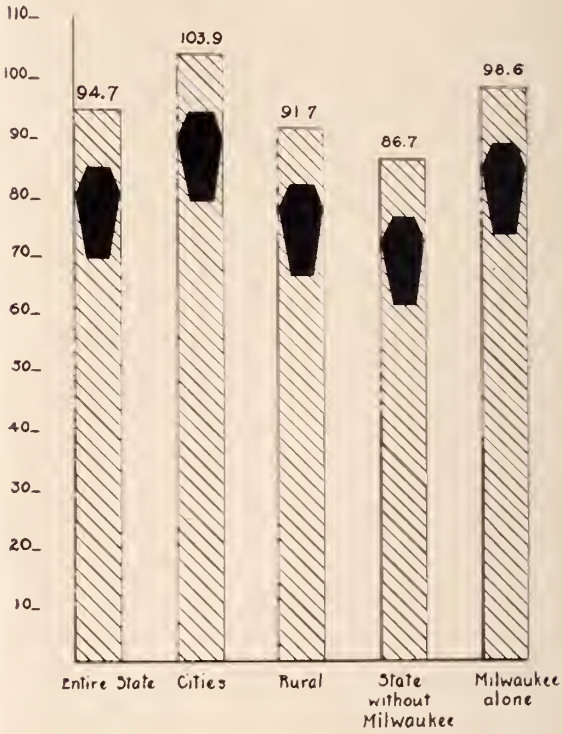
GRAPH II

TUBERCULOSIS case-fatality ratios (number of deaths per 100 reported cases) in Wisconsin and certain subdivisions, based on 10 year average, 1911-1920



GRAPH III

TUBERCULOSIS death rates per 100,000 population in Wisconsin and certain subdivisions based on 10 year average 1911-1920



PUBLIC HEALTH NEWS ITEMS.

Dr. William C. Felton was elected health officer at Appleton to succeed Dr. H. E. Ellsworth.

Mrs. Johanna Clark, Fort Atkinson, was appointed nurse on the staff of the Bureau of Child Hygiene of the State Board of Health. Grant County appointed Mrs. Barbara Fletcher, Rock Island, Illinois, as county nurse to succeed Miss Agnes Smith, resigned.

Dr. Ira F. Thompson has resigned his position with the State Health Department to become Deputy Commissioner of Health for the city of Milwaukee.

Dr. Thompson has been with the State Health Department since 1915; first as deputy state health officer located in the Rhinelander district, and then in the Eau Claire district, and later as Chief of the Bureau of Social Hygiene located in

the central office in Madison. He campaigned for the first Baby Week Campaign in Green Lake County, and made the first sanitary township and city surveys in Wisconsin. He did some notable work in connection with the Galesville epidemic of septic sore throat.

Dr. E. V. Brumbaugh, formerly Deputy Commissioner of Health of Milwaukee, has accepted the position as Commissioner of Health for the city of Madison.

The election of Dr. Brumbaugh is the beginning of the organization of a modern health department for Madison. The Board of Health has been reorganized and removed from political influence, which usually interferes with the proper administration of health laws.

Miss Aimee Zellmer has recently been employed by the State Health Department to become assistant in educational work conducted by that department.

Miss Zellmer is a graduate of the State University and received a Master's degree from Simmons College, Boston. For several years she was with the W. A. T. A. in charge of the Modern Health Crusade. She comes to her new position from the White-Williams foundation, Philadelphia.

The last legislature passed a law creating a Juvenile Department in the Board of Control. This new bureau has under its care the education, protection or reformation of dependent, neglected, mentally defective or delinquent children. The Board of Control has appointed Dr. Maybelle M. Park as director of this new bureau. She will investigate all such cases, and make provision for the proper care of these children.

Dr. Elizabeth Woods, of the State Department of Public Instruction, is performing a valuable service in giving mental tests to discover mentally defective and subnormal children. Special classes for these children have been organized in twenty-two Wisconsin cities.

There is no state law that requires drinking fountains in rural or other schools, but the use of the common drinking cup is prohibited by statute. Portable bubbling fountains are recommended where a public water supply is not available.

It is mandatory upon counties to employ a county nurse. The compensation is left entirely to the county board. These nurses must be certified to the county by the State Board of Health. Failure to comply with this law is actionable by mandamus proceedings.

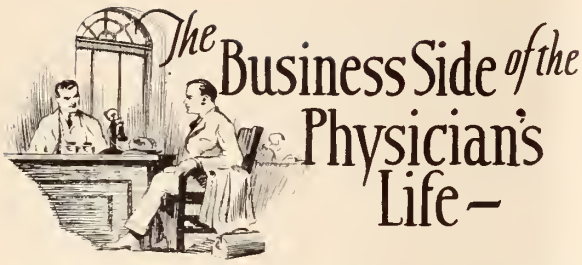
Where there is sickness in a home and a physician is not employed, it is the duty of the health officer to make an investigation if there is any reason to believe the illness is a communicable disease. If such a disease is suspected by the parents, it is their duty, as much as a physician's when he is called, to report it at once to the health officer.

In efforts to limit scarlet fever, usually prevalent in the state, the State Board of Health urges physicians to treat as scarlet fever all cases signalized by sore throat and a slight eruption. The epidemic is attributed to the mild type prevailing, failure to isolate properly the first case in the home, and in many cases to failure to call a physician.

At present there are no known lepers in Wisconsin. When cases appear, isolation in care of relatives or commitment to the leper colony operated by the U. S. Public Health service in Louisiana is the procedure usually followed.

Influenza reports up to March 30th totaled 2,287 cases as compared with 237 in February.

Miss Nellie Van Koy, who has been with the Department of Public Health Nursing of the State Board of Health, has resigned to accept a position with the Wisconsin Anti-Tuberculosis Association. Miss Van Koy was with the W. A. T. A. before coming to the State Board of Health.



This, the first of a series of articles dealing with the business side of the physician's life, has been prepared by a Milwaukee banker, whose contacts with the medical profession have been many and varied. He speaks from a banking experience of many years.

THE BUSINESS SIDE OF THE PHYSICIAN'S LIFE.

I like doctors. Among my friends are many of them, and with several I am on most intimate terms. I like their ideals. I like them so well individually and as a class, that it is a matter of sorrow to me to see the reckless way in which many of them disregard their business affairs and their preparation for future security. When the opportunity was presented to me to talk to them through their own magazine, I greeted it as an opportunity for perhaps some little service, some little return for the steadfast help, comfort and skill some among you have brought to me in those hours of crisis that are part and parcel of the history of every home. I shall feel very happy if I can feel that I have helped some at least to a true perspective of the relation of money to life and happiness, and to a true knowledge of what "investment" really means.

The recent disclosures in New York on the methods and activities of bucket shops which resulted in the enforced bankruptcy of some forty of these concerns with attendant losses of millions of dollars has produced a large number of editorial comments, feature articles, and the like, in the current magazines and newspapers. Out of curiosity I checked up a point that I thought would be of interest to this column. Of sixteen articles in various periodicals, fourteen made some reference to physicians in analyzing the list of "dupes" that had been taken in by the swindling gentry.

Perhaps this is all part and parcel of that hoary old myth—or is it a myth—that "the physician is not a business man." Then, again, perhaps it *is* true, that the physician, more than the average man, is particularly susceptible to the lure of the gambler's chance.

Theoretically, a man has a right to do with his money as he pleases—doctors no less than other folks—and I remember a good many more or less hectic instances in many years of banking when excited clients have told me just that—including some doctors. But of course most men, sooner or later, acquire a family, which changes the matter entirely. Or if they fail to do that, there is still the obligation that every man owes himself to try at least to hang onto enough of his money so that his later years need not be harassed by the fear of being forced into retirement without an adequate income to care for him and his decently and comfortably.

Through the years I have sat behind a banker's desk, I have seen a couple of generations come and go. Little men, big men, solid citizens, some not so solid, alert men, stolid men, nervous men, fidgety men—and women, particularly in the last few years since woman has challenged man for a position in world activities. It has been a wonderful opportunity to study human nature, its greatness and its weakness; and it has been an illuminating experience.

We bankers are popularly supposed to be conservative fellows, and I suppose we are. And I suppose it is this procession past our desks of men and women, each with his pet hobby or ideal, that has made us so. For we see so many of these brain children that in the creators' minds are flawless, come a cropper for one reason or other Generally the reason is failure of their creators to think their problem through to a logical end Most people allow themselves to be carried away by their air castles. With examples like these an almost daily experience, it is not to be wondered at that bankers develop a very large bump of caution. In defense of it, let me ask you to note that the average banker is able to retire with a comfortable competence and that a large proportion of the men who are whacking golf balls around the course at Atlantic City this summer are one-time bankers who have retired to enjoy the fruits of their conservatism. This result is frequently achieved, too, in the face of much smaller incomes than many of the banker's clients and friends who in their productive days failed to prepare for the inevitable later years. None of us are immortal. We all grow old some day. What folly not to prepare for it.

There is one fundamental thing that most peo-

ple need to learn, the ability to distinguish between "Investment" and "Speculation." I wish that you would consider the meaning of and the difference between the two words. How generally it is true that we live with words without bothering to stop and really analyze them. *Investment is the placing of money solely for income. Speculation is the placing of money for the purpose of making a profit from market fluctuations.* In justice to his interests every man should analyze his own case and decide whether he should confine himself to investments or whether his income is sufficiently ample to warrant him using a little of the surplus in "taking flyers." Once the decision is made, do not permit your mind to delude itself into confusing the two terms.

Confusion in safeguarding one's possessions as well as in any other line is costly. Unprotected old age is tragic.

OUR KNOWLEDGE OF VITAMINS.

Commenting on the trend of medical research concerning vitamins, the latest report of the British Medical Research Council says:

The present situation is a curious one, upon which posterity will probably look back with great interest. We still have almost no knowledge of the nature of these elusive food substances or of their mode of action, but we have gained empirical knowledge already of the greatest practical value for the prevention of scurvy and other grave diseases and for the promotion of health and beauty in the population.

This statement, it will be noted, emphasizes the foundation on which rests our present use of vitamins. From time to time THE JOURNAL has commented on our lack of actual knowledge of these mysterious substances, emphasizing particularly the generally accepted fact that the taking of a well-balanced diet results in providing the individual with such vitamins as are necessary to his growth and nutrition. Last week appeared a brief report of a meeting of the Chicago Medical Society devoted to this subject, and it was gratifying to have the conservative view which THE JOURNAL has emphasized substantiated by many of those who took part in the discussion. Moreover, the *British Medical Journal*, in its leading editorial for February 11, reiterates that an abundant supply of vitamins exists in all fresh vegetables, and that a considerable quantity occurs in milk and meat, provided the latter substances are obtained from animals fed on fresh foods. "A normal adult," it says, "living on an ordinary diet containing a reasonable proportion of fresh vegetables is, therefore, certain of obtaining a plentiful supply of vitamins." Of all the mass of evidence which has accumulated relative to these substances, this fact is the point of greatest importance. It is, however, very unfortunately, the one point which those commercially inclined are willing to recognize.—*Jour. A. M. A.*, March 11, 1922.

THE SCHICK TEST.

In the opinion of ABRAHAM ZINGHER, New York (*Journal A. M. A.*, Feb. 18, 1922), standards for official control of Schick outfits are strongly advisable. Careful standardization of Schick outfits in guinea-pigs necessitates that there should be at least one minimal lethal dose in each individual outfit. Such an outfit would be sufficient for from 35 to 45 tests. Outfits for the Schick test sufficient to make five or ten tests cannot be tested for accuracy except in the human being. Undiluted bulk toxin, accurately and carefully diluted, is most suitable for the testing of large numbers of individuals in schools, institutions, hospitals, clinics, etc. Two methods are given for the dilution of bulk toxin. The dose of toxin for the Schick test is 1/40 minimal lethal dose in 0.2 c.c. This amount has been found to be the equivalent of 1/50 minimal lethal dose in 0.1 c.c. The larger amount of the more diluted toxin is easier to inject, and the results are more likely to be accurate. The positive Schick reactions also in susceptible individuals who have not even a trace of antitoxin are not likely to be so severe and show the superficial necrosis of the skin noted with the more concentrated dilution. The dose of heated toxin for the control test has, in addition, a 20 per cent excess to allow for slight deterioration by heating of the reacting autolyzed protein. Too much emphasis cannot be laid on the accurate dilutions of the toxin for the Schick test and for the control test. Such dilutions represent the very foundation for any successful attempt in using the Schick test in the control of diphtheria.

STERILITY STUDIES.

Harold Henderson and T. G. Amas, Detroit (*Journal A. M. A.*, June 10, 1922), have used the Rubin test as simplified by Furniss, and they believe they can tell not only whether one tube is occluded, but also which is the affected one. This is done in the following manner: The operator or an assistant listens over the lower abdomen with a stethoscope while the injection is being made. At first there is no sound. Then, as the tubes open up, there is a high pitched bubbling heard over the side corresponding to the tube which opens first. They suggest that the test may be of therapeutic benefit. The otologist inflates eustachian tubes in chronic otitis media, and gradually restores the middle ear to normal. Is it not possible that a mild, low grade inflammation may glue the tubes shut but not permanently close them? The fallopian tubes of these patients may be inflated and restored to normal so that pregnancy may result. Tubes inflated only with difficulty at first are easily inflated the second or third time.

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Winnebago	F G Connell, Oshkosh	T. D. Smith, Neenah
Wood	D Waters, Grand Rapids	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

BROWN-KEWAUNEE

The Brown-Kewaunee medical society held its May meeting on the 18th, at Hickory Grove sanitorium.

BARRON-POLK-WASHBURN-SAWYER-BURNETT

Eighteen doctors were present at Rice Lake from these counties on May 2, and heard the following program Icterus, Dr. H. T. Nippert, St. Paul; Headaches of Ocular and Nasal Origin, Dr. H. J. Rothchild, St. Paul; Tumors of the Breast, Dr. J. H. Fallis, Rice Lake; Rectal Diseases, Dr. A. D. Galloway, Clayton; The Tonsils, Dr. E. J. Krapp, Rice Lake.

DANE COUNTY

First annual Clinic day was held in Madison on May 9, under auspices of the Dane County Medical society.

Special demonstrations were arranged at Bradley Memorial, Madison General, Methodist, and St. Mary's hospitals and at the Madison sanitarium.
sanitarium.

Clinics were held in surgery, radiology, obstetrics, orthopedics, urology, medicine laryngology, dental surgery, clinical laboratory methods, roentgenology, fluorscopy, and radium therapy.

The staff of the Jackson clinic was at the Methodist hospital and the staff of the Davis-Dwight clinic at the General hospital. Dr. William F. Lorenz of the Wisconsin Psychiatric institute held a clinic on blood transfusion and spinal puncture at St. Mary's hospital.

A banquet for doctors, ladies, and invited guests was held at the Park hotel at 6 P. M. Dr. Frank Smithies, Chicago, associate professor of medicine at the University of Illinois medical school, was the principal speaker. Dr. Charles Sheldon of Madison, toastmaster.

Preceding the banquet an auto tour of Madison was given for visiting doctors and their families.

GREEN COUNTY

At a meeting of the Green County Medical society, May 2, officers for the coming year were elected as follows:

President—Dr. J. L. Fleck, Brodhead.

Vice President—Dr. Edward Blumer, Monticello.

Secretary and treasurer—Dr. J. F. Mauermann, Monroe.

Censors—Dr. L. A. Moore, Dr. W. G. Bear, Dr. F. L. Hodges.

The association recommended to the county board that Green county co-operate with Rock and Walworth counties in erecting a tricounty sanatorium for care of tuberculosis cases.

GREEN LAKE-WAUSHARA-ADAMS

Doctors from Ripon, Brandon, Princeton and Berlin met in Berlin April 28 for the regular medical instruction in the postgraduate course. A supper at Hotel Whiting preceded the meeting. The clinic was held in the evening.

Dr. H. B. Hitz, chief laryngologist, rhinologist and otologist of the Milwaukee hospital, Children's Free Hospital and Columbia hospital, Milwaukee, was the instructor and his subject was: "The Causes and Prevention of Deafness."

MARINETTE-FLORENCE

The fourth of a series of meetings to be given by the Marinette-Florence County Medical society was held at Hotel Marinette April 26th.

The speaker of the evening was Dr. O. H. Foerester of Milwaukee who read a paper on "The Capital Diseases of the Skin." Dr. Foerster also presented a number of stereopticon lantern slides to illustrate the features of the address.

MILWAUKEE ACADEMY OF MEDICINE

Tuesday, June 13th.

1. Pathology on Goiter—Louis B. Wilson, Director of the Mayo Foundation for Medical Education and Research, Rochester, Minn.

2. Presentation of Clinical Cases and Pathological Specimens.

3. Reports from the meeting of the American Medical Association—Volunteers.

An address by Dr. William F. Braasch, chief of the department of urology, Mayo clinic, Rochester, Minn., featured a meeting of more than 100 members of the Milwaukee Academy of Medicine, May 9.

Dr. Braasch's talk was aided by a lantern slide demonstration.

Dr. Charles W. Baugh explained "A Case of Hodgins Disease Originating in the Tonsil."

NINTH COUNCILLOR DISTRICT MEDICAL

Dr. Wayne F. Cowan of Stevens Point was elected president of the Ninth Councillor District Medical society at its annual meeting on May 10. Dr. Joseph F. Smith of Wausau was re-elected secretary and treasurer. Dr. Cowan succeeds Dr. V. A. Mason of Marshfield as president.

The session was taken up largely with clinical work of particular interest to the attending doctors. Dr W. C. Hopkins of Chicago, chief surgeon of the Chicago and Northwestern railroad, was the principal speaker on the program. He gave two talks, one in the afternoon and another in the evening, both of which were illustrated by slides.

WALWORTH COUNTY

The Walworth County Medical society met in the Y. M. C. A. building, Lake Geneva, May 10th, for the second number of their postgraduate course in obstetrics. Dr. Carl Harper, of the University of Wisconsin, gave the lectures on the films and slides both afternoon and evening.

The society is making arrangement to have the popular lecture and films, "The Gift of Life" shown in every town in the county during the last week in June. This should prove of untold benefit to the future generations of the county, and should be seen and heard by every mother and girl over eight years old. The educational part will be shown in a way that will have a lasting impression and will displace a lot of "hit and miss" theories that come to the child from wrong sources.

WAUKESHA COUNTY

The County Medical society met in the offices of Dr. George Peterson on May 3. The program consisted of several addresses by members of the organization. The principal subject of discussion was that of "Gastro-Intestinal Disorders," the topic being entered into by all present.

Following the meeting the members were entertained at dinner at Goff's, Dr. Peterson and Dr. R. E. Davies being the hosts.

NEWS ITEMS AND PERSONALS

Dr. W. W. Johnson acting health officer of Racine for several years has been chosen health commissioner by the new board of health.

Dr. G. C. Wichman of Rib Lake has sold his practice to Dr. G. L. Baker of Austin, Minn., and expects to leave for California, where he intends spending the coming winter. Dr. Wichman has resigned as secretary of Price-Taylor County Medical Society and Dr. E. B. Elvis of Medford was elected for the unexpired term.

Efforts to pay off a debt of $45,000 on the Hartford hospital, Hartford, are being made in anticipation of its purchase by the Evangelical Deaconess hospital, Milwaukee.

Right of way for physicians on emergency calls will be sought by the Milwaukee Medical society.

A proposed bill will go to the legislature with the approval of police and city officers. Registration of all physicians and the issuance of vest and automobile badges will be asked.

A check for $128,962 has been turned over to the Children's Free hospital fund by the Ferdinand Schleisinger estate as final payment of the $150,000 pledge of the estate to the building fund. The pledge was given on condition that an equal sum be raised from other sources.

Torger G. Thompson, a well known farmer of Deerfield, Wis., announced that he would give $50,000 for the establishment of a hospital in Madison to be conducted by the Norwegian Lutheran church of America, providing $100,000 was raised by the church within six years.

At the annual meeting of the medical staff of St. Mary's and Mercy hospitals, Oshkosh, officers were elected to serve during the ensuing year. Those chosen to head the staff were: President, Dr. J. M. Hogan: vice president, Dr. Frank Brockway; secretary and treasurer, Dr. J. F. Schneider; executive committee, Dr. C. J. Combs, Dr. J. M. Conley and Dr. H. E. Johnston.

Dr. F. F. Bowman, Madison deputy health officer, was appointed epidemiologist to succeed Dr. I. F. Thompson.

Dr. G. W. Henika, Madison, was named to take Dr. Bowman's place.

Miss Nelly Van Kooy, state advisory nurse for the southern half of the state, has resigned. The vacancy will be filled by civil service appointment. Miss Van Kooy returns today to her work with the Wisconsin Anti-Tuberculosis association, Milwaukee.

Dr. James and Joseph Dean have opened new offices on the second floor of the Karstens building, Madison.

Dr. E. G. Welke, former interne at Madison General hospital, will in the future be associated with Dr. W. J. Ganser of Madison.

Dr. F. M. Shultz has resigned as superintendent of the Milwaukee county hospital because of ill health. Dr. Schultz, who has been in California on a leave of absence, has served the hospital since January, 1908.

Dr. William C. Felton has been elected health officer at Appleton to succeed Dr. H. E. Ellsworth.

With fifteen nurses enrolled, the Wisconsin Anti-Tuberculosis association started its eighteenth course for public health nurses with the largest registration it has yet had in this course. The field work will be conducted under the direction of the six staff nurses of the Milwaukee county dispensary.

The greatest removal of doctors in Sheboygan took place April 29 when fourteen of them gave up the offices in which they had been for many years and moved into the Sheboygan Clinic.

Some of them had been in the same offices for more than 30 years, others for twenty years, while most of them were in the same office since they started practicing.

Appointment of a committee of the regents and faculty of the University of Wisconsin to consider problems growing out of the proposed construction of the $1,350,000 Wisconsin general hospital in connection with a four-year medical course at the University of

Wisconsin, has been made. This committee will investigate and report to the governor on questions which he wishes answered before authorizing construction.

Dr. William A. Rauch has been appointed resident physician at South View Isolation hospital.

Dr. Herman Gilbert, of Madison, is seriously ill.

A meeting of the tri-county sanitoria committee, representing delegates from Fond du Lac, Winnebago and Waushara counties, was held and final details of the triple ownership plan for Sunny View sanatorium, near Oshkosh, were agreed upon. Winnebago county is erecting a Hicks Memorial Nurses' home near Sunny View. The county has agreed to permit the nurses of the Sunny View sanitorium to use the nurses' home.

Dr. Clarence Baer of Milwaukee left for New York May 27, from where he will sail for Europe for the summer.

In accordance with a vote taken by the Beloit Physicians and Surgeons' club all members of the organization will close their offices every Wednesday afternoon and evening until October 1.

June 5 has been set as the last day by the prohibition office for the use of the old style prescription books in the hands of Wisconsin physicians.

After that date, the new prescription books, made of engraved water-marked paper like banknotes to prevent counterfeiting, must be used. Any physician using an old prescription blank after June 5, or any pharmacist filling such a prescription will have his license revoked.

Doctors have been ordered to send their old books to prohibition headquarters.

Dr. Lloyd Helmes has moved his office from Monroe to Monticello.

Dr. J. J. Looze of Wisconsin Rapids is on the way to recovery after a serious illness.

The Sisters of St. Mary have accepted the very generous offer of Mrs. Della Ringling of Baraboo, to deed property to them for hospital purposes and a sum is being subscribed to remodel and equip the buildings.

Dr. G. H. Lawrence of Stevens Point who recently suffered a nervous breakdown, has been taken to Chicago for treatment and may undergo an operation.

Dr. Gratiot, Mineral Point, has sold his practice to Dr. L. S. Graves of Wilton.

Dr. G. S. Metcalf, of Endeavor, has purchased the drugstore formerly owned by Dr. J. E. Simpson and will have his office in connection with same.

The Northern Wisconsin Memorial Hospital Company is now an incorporated body and everyone is being called upon to do their share in putting through this proposition as it will give Taylor county a much needed hospital.

The spacious new nurses' home, built in connection with St. Joseph's hospital at Marshfield was open to inspection on Hospital Day, May 12.

Ten Wisconsin counties are on the 1922 itinerary of the Child Welfare Special, the motorized health center built into a big, glistening, white truck-body for the state board of health.

The counties are Rock, Grant; Sheboygan, June 12 to 21; Manitowoc, June 22 and 23; Oconto, June 26 to July 14; Oneida, July 15 to 21; Bayfield, July 24 to August 11; Portage, August 21 to September 8; Monroe, September 13 to 29; and Juneau county, October 2 to 6.

At a meeting of the Marathon County Medical society it was decided that its members would close their offices on Saturday afternoons and evenings, and would keep them open on Friday evenings, from June 15 to Sept. 30.

Dr. F. Eigenberger, pathologist of the Sheboygan clinic, of Prague, Czecho Slovakia, has arrived in Sheboygan to take up his new duties, bringing with him a complete set of equipment for the pathological laboratory.

The people at Gillett have voted to furnish a twenty room hospital. These rooms will be built into a hall over a store.

At a meeting of the stockholders of Victory hospital, Stanley, it was decided to promote the organization of a Hospital Guild to keep alive a community interest in the hospital.

A fight to obtain a $3,000,000 hospital allowed in congressional appropriations for Milwaukee, in addition to the $1,500,000 hospital now being built at the Soldiers' Home, was begun in Washington by Congressman Kleczka.

In connection with the observance of Hospital day in Ashland, two tablets commemorating the dead doctors and nurses who were associated with St. Joseph's hospital, were dedicated.

Plans will soon be completed on the new Milwaukee County General hospital to be built at Grand ave. and Twenty-fourth st., Milwaukee. The four buildings comprising the entire hospital will cost approximately $2,000,000.

DEATHS

Word has been received of the sudden death at Bremerton, Wash., of Dr. Lewis Moody, practicing physician of Superior from 1900 to 1910. Dr. Moody was a graduate of Augustana college, Rock Island, Ill. Later receiving his medical degree at Northwestern university.

Dr. W. A. Lester passed away at his residence in Onalaska, May 15, following an extended period of ill

health due to paralysis. Dr. Lester had been a practicing physician of Onalaska for over forty years.

Dr. Walter Merritt, former city health officer of Janesville, was killed in an automobile accident near Seattle, Wash., when the stearing gear of his car broke.

The death of Dr. A. H. Guernsey, formerly of Amherst, which occurred at his home in Glendale, California, on the 22nd of April, was the result of a stroke of apoplexy with which he was stricken last December

Dr. J. L. Proudlock of Danbury, died at St. Luke's hospital, Duluth, May 24, after a ten days' illness.

MARRIAGES

Dr. Delano Richard Aves of Marathon, to Miss Laura Marion Mason of Milwaukee, April 24th.

Dr. Edgar J. Craite, Rice Lake, to Miss Margaret Sheedy, Green Bay, May 18th.

Dr. B. H. Aberembt, Milwaukee, to Miss Rosalia Sullivan, Wausau, May 18.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At—Washington, D. C. ..... July 10, 1922.
At—New York City ..... July 10, 1922.
At—Chicago, Illinois ..... July 10, 1922.
At—San Francisco, Cal. ..... July 10, 1922.
At—New Orleans, La. ..... July 10, 1922.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two year's professional practice. They must pass satisfactorily oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

H. S. Cumming,

Surgeon General.

THE TRAINING OF HOSPITAL EXECUTIVES

A committee on the training of hospital executives, appointed by the Rockefeller Foundation early in 1920, has just rendered its report; it is "an attempt to present a composite picture of the American hospital and to suggest a basis for training hospital executives." The hospital is referred to as the common ground where the patient, the community and the professional groups come in contact so that, with proper amplification and development, the hospital will help materially in the solution of many problems. Attention is called to the enormous capital—approximately $3,000,000,000—invested in the hospitals of the United States and Canada, and to the tremendous financial gain which will result from the greater efficiency which is possible if due consideration is given to the problems of administration as well as to those of location, organization and finances. The report recognizes the major function of the hospital as its service to the patient—"the cross section of human life." The hospital is "a community organization which provides facilities and personnel for rendering the highest possible grade of health service to patients, professional groups and the community; for educating the community to demand and support adequate services and sound health policies: for educating additional personnel and professional groups in technical fields and in cooperative endeavor, and for advancing our knowledge of disease and its prevention through technical research and appropriate organizations."

While the ultimate responsibility for policies and for appointments on the professional staffs rests with a governing board, the one person responsible for the conduct of the hospital is its executive—its superintendent, manager or director—the basic reason for the proposed course. The executive organizes the professional groups and other personnel in order to secure their proper functioning. Such an officer should be able to interpret community needs and the fundamentals of sound administration, as well as to be able to mobilize and direct the diversified activities of the hospital.

Specific training for the hospital executive has not heretofore been provided for, and, in fact, not even considered. The committee shows the need for the special class of trained hospital executives, and advises that his education be placed on a university basis. It recommends also that the conception of the hospital be changed; that is be looked on more as a community health center wherein the various health activities can cooperate under a central policy-determining organization. Provision will need to be made also for satisfactory compensation whereby students of the highest ability can be secured. The course of instruction outlined includes public health, 20 per cent; social sciences, 15 per cent; organization, 15 per cent; hospital functions and history, 10 per cent; business science, 10 per cent; institutional management, 10 per cent; personnel administration, 5 per cent; community hospital needs, 5 per cent. Instruction in these subjects

will cover a period of nine months, to be followed by four months of practical work in a hospital, and two months to be spent in visiting hospitals of different types and sizes.

The proposed training school for hospital executives should be located where the facilities, machinery and teaching personnel necessary for presenting the fundamentals of the subjects are accessible. Such material and personnel are found for the most part in well established schools of arts and sciences, business administration, medicine, nursing, public health and engineering, as well as in hospitals, dispensaries and social agencies. The training contemplates university supervision and immediate direction of an individual of adequate university caliber with the departmental staff appropriate to the proposed course of training. It is recommended that, wherever possible, courses now in existence and present personnel be utilized.

This report reveals the greater possibilities of community service which hospitals may have through the securing of thoroughly trained superintendents. The whole scheme may appear to some to be idealistic, but, it is based on a careful study of existing conditions, and an actual trial of the plan may demonstrate its practicability.—*Jour. A. M. A.*, June 10, 1922.

A MEDICAL GARDEN.

While synthetic medicaments have held the focus of medical attention during the last two decades, those which may be obtained from medicinal plants have continued to be of great utility, and many even irreplaceable. Such plant derivitives as cinchona, aconite, opium, rhubarb and senna still command a wide range of use in medical practice. For this reason the exhibit at St. Louis by the Missouri Botanical Gardens of a reproduction of the old Chelsea Physic Garden attracted a large number of the physicians who visited the annual session of the association. A recent issue of the bulletin published by this organization[1] is devoted to an historical discussion of the famous garden which was reproduced. Even in 1673, as shown by this report, it was found necessary to protect the physician and dealer in drugs against unsatisfactory and inefficacious counterfeits of valuable drug substances, and this necessity led to the establishment of the Chelsea garden. A greenhouse, heated by so-called "subterranean heat," conveyed by means of a brick flue under the conservatory, was erected in 1681, and in 1732 the garden was visited by Linnaeus, who states in his diary that he collected many plants in the garden and that he was given several dried specimens from South America. The Chelsea garden is still maintained, although now administered by the trustees of the London Parochial Charities. In the exhibit as made in St. Louis, the reproduction followed the plan of the Chelsea garden drawn by John Hayes in 1753. To complete this demonstration, the authorities of the Missouri Botanical Garden gathered in the museum building copies of old works on materia medica and other incunabula on botanic subjects of medical interest, and also provided demonstrations on the disease of plants. The medical profession is greatly indebted to the authorities of the Missouri institution for this practical historical demonstration of botanic therapy.—*Jour A. M. A.*, June 10, 1922.

[1]Missouri Botanical Garden Bulletin 10:55 (April) 1922.

A TEST FOR DIPHTHERIA IMMUNITY AND SUSCEPTIBILITY.

A method of testing the blood for the presence of diphtheria antitoxin has been devised by W. H. Kellogg, Berkeley, Calif. (*Journal A. M. A.*, June 10, 1922), said to be quantitatively accurate, and in this respect superior to the Shick test; also, it has the further advantage that it is applied at a central laboratory on blood which can be sent long distances by mail. In this new test, advantage is taken of the fact that the skin of the guinea-pig is sensitive to the minutest amount of diphtheria toxin.

CHANGES IN FINGER NAILS AFTER RHEUMATIC FEVER AND TUBERCULOSIS.

William H. Rosenau, Chicago (*Journal A. M. A.*, June 10, 1922), describes changes in the nails which he noted following acute rheumatic fever. The finger nails showed small depressions in the nail plate, for the most part presenting a punched-out appearance. Their size varied from that of a pin point to that of a pin head. Some depressions were very superficial, and others were deep. They moved forward with the growth of the rest of the nail, and finally disappeared. The depressions occurred with equal frequency on the nails of the two hands and were most frequently seen on the index and ring fingers. Their number varied from one to ten, reaching, in extreme cases, as high as twenty-two on each nail, the average number being from two to four. These changes were observed early, following an attack of acute rheumatic fever in five cases, and late, namely, after nine years, in one case. All of these cases were characterized by the association of cardiac changes (endocarditis, etc.). Of 100 patients without a history of rheumatic fever, without cardiac changes, only four, or four per cent, showed the characteristic depressions. Of twenty-two patients with a positive history of rheumatic fever or chorea, eighteen showed these changes in the nails to a greater or less degree (81.9 per cent). These nail changes are not apparent earlier than from six to seven weeks after the onset of acute rheumatic fever (in exceptional cases in five weeks), as it takes this length of time for nail changes occurring in the root to grow forward sufficiently to be observed on the visible portion of the nail plate. These changes also occur in active tuberculosis in 70 per cent of the cases, but they are often associated with transverse and longitudinal grooves and clubbing of the finger nails.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

1921 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1318 pages. 392 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $12.00 net.

A Text Book of Practical Therapeutics. By Hobart Amory Hare, M. D., L. L. B., B. Sc. 18th edition. Philadelphia and New York: Lea and Febiger, 1922. Price, $6.50.

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph. B., M. D. Illustrated with 136 engravings and 8 plates. Philadelphia and New York: Lea and Febiger, 1922. Price $5.50.

Glands, Health and Disease. By Benjamin Harrow, Ph. D., New York. E. P. Dutton Company, 1922. Price $2.50.

Optimistic Medicine or the Early Treatment of Simple Problems Rather Than the Late Treatment of Serious Problems. By Arthur C. Crandall. Philadelphia: F. A. Davis Company, 1921. Price $5.50.

Hayfever and Asthma, Care, Prevention and Treatment. By William Scheppegrell, A. M., M. D. Illustrated. 107 engraved and 1 colored plate. Philadelphia and New York: Lea and Febiger, 1922. Price $2.75.

The Law of Vital Transfusion and the Phenomenon of Consciousness. By Charles J. Reed. Occidental Publishing Company, San Francisco, Calif.

Bi-Sexual Love. By William Stekel (Vienna). Authorized translation by James S. Van Tressler, M. D. Boston. Richard G. Badger: The Gorman Press, 1922.

The Place of Version in Obstetrics. By Irving W. Potter, M. D., F. A. C. S. C. V. Mosby Company, St. Louis. 1922. Price $5.00.

Practical Infant Feeding. By Lewis Webb Hill, M. D., Junior Assistant Physician to the Children's Hospital, Boston; Assistant in Pediatrics, Harvard Medical School. Octavo of 483 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1922. Cloth $5.00 net.

A Psychoanalytic Study of Psychoses with Endocrinoses. By Dudley Ward Fay, Ph. D. Nervous and Mental Disease Monograph Series No. 33, New York and Washington, 1922. 122 pages.

Management of the Sick Infant. By Langley Porter, M. D., and Will E. Carter, M. D., both of the University of California Medical School. Illustrated. C. V. Mosby Co., St. Louis, 1922.. 654 pages. Price $7.50.

Surgical and Mechanical Treatment of Peripheral Nerves. By Byron Stookey, M. D. With a chapter on Nerve Degeneration and Regeneration, by G. Carl Huber, M. D. 475 pp. 217 illustrations, 8 in colors, and 20 charts. Philadelphia and London: W. B. Saunders Co. 1922. Price, $10.00.

The Thyroid Gland. Clinics of George W. Crile, M. D., and Associates at the Cleveland Clinic, Ohio. 228 pp. 106 illustrations. Philadelphia and London: W. B. Saunders Co. 1922. Price, $5.00.

Tuberculosis in Infancy and Childhood. By J. Claxton Gittings, M. D., and Frank C. Knowles, M. D. Philadelphia and London: J. B. Lippincott Co. 1922. 275 pp. Price, $5.00.

The Defective Delinquent and Insane. By Henry A. Cotton, M. D. Princeton University Press, Princeton, New Jersey. 1921. Price, $3.00.

The Psychic Health of Jesus. By Walter H. Bundy, Ph. D. New York: The MacMillan Co. 1922. Price, $3.00.

Opiate Addiction, Its Handling and Treatment. By Edw. Huntington Williams. The MacMillan Co. New York: Price, $1.75.

The Healthy Child From Two to Seven—A Handbook for Parents, Nurses and Workers for Child Welfare. By Francis Hamilton MacCarthy, M. D.

BOOK REVIEWS

1921 Collected Papers of the Mayo Clinic. Rochester, Minn. Octavo of 1318 pages. 392 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, $12.00 net.

Volume XIII of the Collected Papers of the Mayo Clinic just published, is arranged under the following headings: Alimentary Tract; Urogenital Organs; Ductless Glands; Blood, Skin and Syphilis; Head, Trunk and Extremities; Brain, Spinal Cord and Nerves; Technic and General.

The present volume of 1318 pages covers the research and clinical work done at the Mayo Clinic and measures up in every respect to the high standards set by the previous volumes. Seventy-six associates of the Clinic contributed to it and it is probably the most valuable collection of current medical literature published each year in book form. It should be on the shelves of every medical library and no physician keeping abreast with the times can afford to be without it.

A Text Book of Practical Therapeutics. By Hobart Amory Hare, M. D., L. L. D., B. Sc. 18th edition. Philadelphia and New York. Lea and Febiger. 1922. rice $6.50.

This standard text on therapeutics, which is written with special reference to the application of remedial measures to disease and their employment upon a rational basis, has reached the remarkable record of eighteen editions, a record seldom accorded in medical texts. Each edition has been revised but the present has had a more thorough than usual revision. The author has held fast to that which is good and dis-

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carded the obsolete. The pages on transfusion and those dealing with renal disease have been entirely rewritten. This standard text maintains its leadership and those with the older editions should purchase the new.

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph. B., M. D. Illustrated with 136 engravings and 8 plates. Philadelphia and New York. Lea and Febiger. 1922. Price $5.50.

Dr. Cummer has succeeded in giving us in a concise and accessible form, a most acceptable manual for students and practitioners. The following plan has been adopted: (1) Outline of routine examinations; (2) Discourse in simpler qualitative methods which are frequently employed; (3) Discourse of quantative methods or those of intricating technic; (4) Discussion of findings in various morbid conditions. When several methods are given the preferred one is indicated. Cross references are used throughout and an excellent bibliography is included. The work covers the entire field of laboratory methods and is highly recommended.

Glands, Health and Disease. By Benjamin Harrow, Ph. D., New York, E. P. Dutton Company, 1922. Price $2.50.

We have here a most interesting new work on a subject exceedingly interesting to all. The newer knowledge of the ductless glands and of their control is here made available in a clear clean-cut language. This work, which can be placed in the hands of the layman, and will correct the half-baked knowledge he often gets at present, which is so misleading and worse than no knowledge at all.

Optimistic Medicine or the Early Treatment of Simple Problems Rather than the Late Treatment of Serious Problems. By Arthur C. Crandall. Philadelphia. F. A. Davis Company. 1921. Price $5.50.

We do no better than quote the preface of this work:

> "Between the Technical Knowledge of the Physician and the Legendary Instincts of the average citizen there is a sort of No Man's Land which accounts for many a sudden disappearance from these earthly scenes. If it were possible for the physician who by comparison knows nearly everything on the subject, to in a measure bridge this gap and thus transform his patients into clients with a greater common knowledge of Physiology and Hygiene as a mutual basis for consultation, the advantages to the medical profession would be great; but nothing in comparison with the benefits conferred upon the average family, whose hygienic 'blunders' in their aggregate results to society are worse than many of the traditional 'crimes.'"

The dominating note of this book is the importance of maintaining an optimistic attitude at all times, if a man or woman would preserve a sound mind and body. The author points out the many benefits resulting to the family which maintains frequent contact with some competent individual physician, who in this way can become acquainted with the physical peculiarities of each family member, an advantage of the utmost importance in treating any serious disease.

Here is a book which should be on the waiting room table of every physician, a book which can be loaned to his patients to the profit of all.

Hayfever and Asthma, Care, Prevention and Treatment. By William Scheppegrell, A. M., M. D. Illustrated. 107 engraved and one colored plate. Philadelphia and New York. Lea & Febiger. 1922 Price $2.75.

The evolution of our knowledge of hayfever to its present scientific development forms an interesting chapter in the history of this widespread disease. In this small work of 266 pages the author gives us a most complete and up-to-date study of the subject, covering its every phase. The chapter on treatment and immunization are exceptionally timely. This work should be widely read at this time of the year, and is recommended highly to all.

Bi-Sexual Love. By William Stekel. (Vienna) Authorized translation by James S. Van Tessler, M. D. Boston. Richard G. Badger. The Gorman Press, 1922.

Stekel's work is a most valuable contribution to the literature of the homesexual neurosis and a work which can be highly recommended not only to physicians, but to jurists, sociologists and those engaged in the educational field. It will be of extreme interest and value to the psychotherapeutist. Two case histories included in the work are remarkably well done and teach their lesson in an ideal clinical manner. We recommend this work most highly.

The Medical Clinics of North America. (Issued Serially, one every month) Volume V, Number V. March, 1922. By Boston Internists. Octavo of 335 pages, with 62 illustrations. Per clinic year (July 1921 to May 1922). Paper $12.00 net; Cloth $16.00 net. Philadelphia and London: W. B. Saunders Company.

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PREOPERATIVE AND POSTOPERATIVE TREATMENT AND CARE OF PATIENTS.*

BY J. V. R. LYMAN, M. D., F. A. C. S.,

EAU CLAIRE, WIS.

"Never decide upon an operation, even of a trivial kind," wrote Sir James Paget, "without first examining the patient as to the risks of his life. You should examine him with at least as much care as you would for a life insurance. It is surely at least as important that a man should not die, or suffer serious damage, after an operation, as that his life should be safely insured for a few hundred pounds."

In the case of urgent operations, performed for the immediate purpose of saving life—as in the relief of a strangulated hernia—few considerations weigh with the surgeon save the one great need. But in slight operations, in amputations for deformity, in the removal of small, innocent tumors, in the carrying out of plastic procedures, and in like surgical undertakings, it is of infinite importance that every possible consideration be given to all circumstances which may affect the patient's well-being.

No operation is without risk: some involve special risks: some overwhelming risks. It is the surgeon's duty to estimate the proportion between the danger incurred by the operation on the one hand, and by the disease if left untreated on the other.

The risk attending the removal of a deformed toe should be infinitesimal. In properly selected cases it is certainly trifling. The operation, however, may be followed by dangers to life if it be carried out in the subject of chronic kidney disease.

Besides the risks to life, there are possibilities to be considered which may be termed local risks.

The little operation for relief of Dupuytren's contraction of the palmer fascia has led to sloughing of the tissues of the hand and crippling of the limb infinitely more severe than that attending the original disease. Even in cases where perfect healing has been secured, want of care in after-treatment has sometimes led to stiffening of all the fingers in an extended position—a condition more disabling than the original contraction of one or two of them.

It is, in fact, of the utmost importance that every care should be taken to arrive at a knowledge of the physical condition of the individual upon whom even a small operation is to be performed.

Age.—Exercises a considerable effect upon the result of operations. Children under the age of five do not bear operations well, the mortality being as high as between the ages of 35 and 50. The mortality is lowest between the ages of 5 and 15, and these years certainly give the best results from operation almost every time. After 15 the death rate begins to slowly but steadily increase. In children, wounds usually heal well. Children show great recuperative power and are free from the effects of that mental anxiety which often acts so injuriously upon adults. On the other hand, children suffer severely from shock and effects of acute pain. Pain, if unrelieved, may in a few hours reduce a child to a state of collapse. Shock is a prominent danger in operations upon young and healthy children. Operations should not be performed, if possible during the first dentition.

Of the influence of old age upon operations, Sir James Paget writes: Among the old there are even greater differences than among the younger in the ability to recover from operations; and age, if reckoned by years, is not the only thing in them we must estimate.

Surgeons are giving more and more attention to the preliminary, pre-operative and post-operative care of their patients with the object in view of lowering the mortality in surgical work, any improvement in methods, either in the manner of diagnosis, the preliminary treatment, the operative technic or the post-operative treatment of cases is desirable.

In reviewing the causes of mortality in series of cases one is impressed with the fact that quite a number of them could have been saved had they been hospitalized and given immediate surgical

*President's address, Wisconsin Surgical Association, Milwaukee, April, 1922.

treatment at an earlier age. This is especially true in cases of strangulated hernia, septic general peritonitis following appendicitis, gangrene of the gall bladder, perforating gastric or duodenal ulcer, intestinal obstruction from volvulus intussusception or adhesions, and the precancerous conditions, such as lacerated uterine cervices and septicemia from wound infections.

The prevention of excessive acidosis by proper preliminary diabetic, hydrotherapeutic and alkaline treatment, as well as the postoperative use of bicarbonate of sodium and glucose (5 per cent solution) has also lessened mortality. The Fisher solution has been used to advantage in some cases of nephritis.

Crile emphasizes three principles in his operative work as tending to lessen mortality: 1. Anoci-association method of anesthesia; 2. Blood transfusion when indicated, and 3, delicate sharp knife dissection.

In selecting an anesthetic for a patient three factors minimize death: 1. The best anesthetic adapted to the individual case. 2. Proper preparation of the patient. 3. A skillful anesthetizer.

No one questions the necessity of proper preliminary treatment of operative cases. In acute abdominal cases due to disease or injury the mortality can be diminished by prompt operative treatment.

In severe hemorrhage following abdominal injuries, ectopic pregnancy, gastric or duodenal ulcer, transfusion of normal salt solution followed by a blood transfusion as soon as donor can be obtained should be done in all cases.

Judd says that anyone who has done much prostate and bladder work realizes that it is the preparation of the patient that has changed the prohibitive operation to a comparatively safe one. In these cases we have the most striking instances of the value of preoperative treatment. Yates mentions a group of cases in which the myocardium has been definitely damaged. Patients with so-called thyrotic goiters, who also have a definite myocarditis, can be made very much better surgical risks if given digitalis before operation.

In jaundice Judd urges the careful preparation of patients who have disturbed liver function. In his experience they are poor surgical risks for radical operations. The coagulation time of the blood is oftentimes almost prohibitive, fifteen to twenty minutes, and as a result these cases will bleed continuously following operation from the wound and mucous membranes, resulting in death regardless of method of treatment. In this class of cases transfusion of blood is of no benefit.

W. J. Mayo has also called attention to those cases of jaundice with disturbed liver function where petechia cover the trunk and sometimes extremities as contraindication for operation as they all die.

In a jaundiced case Miles F. Porter does not care to wait very long in order to get the coagulation time of the blood diminished, owing to the destructive changes going on in the liver and constantly increasing. In the majority of cases hemorrhage can be controlled by the injection of serum or transfusion when done in the early stage. The important thing to do is to start drainage of the liver, and his impression is, although it is not based on experience sufficiently adequate to make a dogmatic assertion, that an immediate operation in these jaundiced patients is best and should consist in a simple drainage of the gall-bladder under local anesthesia coupled with transfusion or the injection of serum to counteract the tendency to hemorrhage. This is better and safer surgery than to wait for days while the pathology and the destruction of the liver cells is increasing, and in the meantime giving calcium intravenously or in any other way.

A. E. Benjamin thinks the mortality has been reduced a great deal by proper preparation of patients. It has been his plan to put patients in the hospital several days beforehand to study them carefully (ideal when it can be accomplished.)

Dean Lewis believes that acute dilatation of the stomach is in most instances due to peritonitis or to mechanical defects of gastroenterostomy. Patients may be over-prepared for operation. Formerly, this was very common. Cathartics were administered at night and would deprive the patient of the necessary rest, and also by the complicated and extensive preparation which we now know is useless if not harmful. The preparation should be as simple as possible, and the patient approach the operation in a normal condition mentally and physically. Surgeons should remember that the mental condition of the patient influences largely the success of the operation, and the postoperative result. Give the patient assur-

ance and encouragement before operation is performed. The preparation and aftercare should be carried out methodically and with little disturbance to the patient. This will add greatly to the comfort and speedy convalescence. If the diagnosis is correct, the surgical technic good and directed only toward the removal or correction of existing pathological conditions, our troubles will be greatly reduced.

How can postoperative complications be accounted for when a careful technic has been carried out in performing abdominal operations? Why is it that many cases require secondary operations for abdominal adhesions and the findings show that the omentum and the intestines are adherent to the whole abdominal scar? What has occurred in these cases following the previous operation? If one should go over the histories of these cases he would find that they had a stormy convalescence, with distention of the stomach and intestines; they vomited and had a great deal of pain; the intra-abdominal tension was increased and adhesions resulted. Why is it that we have these adhesions, and how can we prevent them? Surgery must in some way prevent these postoperative adhesions. Some of the bad results are due to a local peritonitis; they are not all due to gastric distention or to an acute dilatation, but they may be due to a mild infection or to catching the omentum or intestine in sewing up the abdomen. The forceps which one uses to hold the peritoneum may inflict wounds in the peritoneum so that adhesions of the intestines occur, or the use of dry gauze may injure the peritoneum. Benjamin prefers to use rubber dam, a large sheet of it, instead of gauze, believing that he is able to prevent loss of heat, prevent irritation of the bowel, and prevent adhesions by always turning the peritoneum outward, not letting any raw surface remain within the abdomen when he closes it up and he closes the peritoneum firmly.

There are very few cases, except emergency cases, where the surgeon is not justified in taking sufficient time to go into each case and determine the fitness of the patient for operation.

The clinical eye, which gained by years of experience, is so valuable that it is unfair to the patient to delegate all care and responsibility to those who have not yet reached the age where judgment predominates. The first hour is zero hour for any patient following operation. More thought and personal attention to the pre- and postoperative care of patients will bring credit to the operator and greater comfort to the patient.

J. N. Jackson believes that much of our mortality occurs in patients who are operated on too promptly. In other words, there is no anticipatory treatment, no preliminary preparation for operation like there should be, and patients in the future must have longer periods of preliminary preparation if surgeons would still dower their mortality. When surgeons can determine more or less the capacity and function of the liver to get rid of toxic products, the surgeon will know whether a patient is going to recover or not. Jackson makes it his business to give instructions that before a patient is operated on, for at least a week he has to drink all the water he can, take a teaspoonful of bicarbonate of soda, three or four times a day, in a tumblerful of water, and three or four doses of castor oil to clean out the products in the intestinal tract. When the kidneys are clean and the liver filters the surgeon can operate and do almost anything he wants and the patient will recover. Most terminal conditions are fundamentally due to overintoxication incidental to the operation and to the incapacity of the organs to take care of the toxic products. If the surgeon can by preliminary measures prevent this, he will have done a great thing toward decreasing the mortality and morbidity of surgery.

Crile has pointed out that when the abdomen is opened there is a steady fall in temperature, but when hot water is introduced into the stomach there is a rise in the temperature of both the brain and the liver. One must remember, he said, that in a biological system, no less than in a physical system, with each degree centigrade of rise in temperature the speed of chemical activity is increased 10 per cent. Also, with each rise of one degree centigrade of temperature, electrical conductivity is increased 2.5 per cent. Cold has the opposite effect. It impairs or suspends function. Heat sustains function up to the optimum temperature of the body.

In France during the war, nothing did so much to revive a patient as to restore his temperature. This is in accordance with the laws of bio-physics. The opposite is true in cases of hyperthyroidism. If one has a patient whose metabolism is interferred with by a high fever, as in hyperthyroidism, he ought then by putting on cold and packing the

patient in ice, to see the temperature decline by virtue of the abstraction of the heat by the ice. Crile has made practical application of this principle and has observed that the temperature declines and the raging metabolism falls according to this law of bio-physics.

If a patient is a bad risk because he has a failing myocardium; because he has impending acidosis; if a patient has a low blood pressure by virtue of the fact that he has had a hemorrhage or secondary anemia, or that he has a cancer or autointoxication, or an acute or chronic infection—whatever it may be that makes patients bad risks, we see clearly what is to be done: what is to be avoided. What one does is to bring the life of the cell into the best state possible before operation. The surgeon gives these patients blood transfusion. If the myocardium is at fault, he digitalizes the heart in advance provided the operation is not an emergency one. To this end he gives 2 c.c. of tincture of digitalis each four hours for ten doses, unless the patient becomes nauseated before the tenth dose, in which case the digitalis is stopped. If the heart has not sufficiently established itself, the surgeon gives a second cycle of ten doses of 2 c.c. each of digitalis by mouth. As the result of this treatment the heart pulls up and the minute volume of the capillaries is increased. The terminal vessels get more blood. The surgeon in addition gives a blood transfusion. Having done that the surgeon puts into the blood the things it ought to have, things it needs most. The primary requirement is fresh water, because it is only by having fresh water that life itself is possible. We are water-borne animals. Crile, therefore, gives 3000 to 500 c.c. of water subcutaneously in advance of the operation. He says you cannot water a cell in a moment: it takes time to do it. It takes more time to water cells when they are sick than when they are well, and one must therefore give hours of time to watering the cell.

The great point is not to wait until the organism fails to build up the factors of safety in advance of its failing. When there is a working mechanism to build on, one can build up and widen the margin of safety. Incidentally this principle is comparable exactly to the principle of typhoid inoculation. It is comparable as a prophylactic measure to vaccination against smallpox.

The postoperative treatment should be directed and personal supervision given by the surgeon. The tendency is, when the patient leaves the operating room, for the surgeon to dismiss himself from further responsibility by giving the usual directions to his assistant, the nurse or the interne. This has resulted in many evils in the aftertreatment of important surgical cases, and is due largely to the fact that in recent years the refinements of technic and treatment have been carried to such a degree of perfection that the surgeon has felt when he has given specific directions in these particulars, his responsibility practically ceases when he has finished the operation, and has not given the patients that subsequent care and attention which many require of him, rather than have it devolve upon some assistant or nurse. The postoperative treatment is oftentimes as important as the operation itself.

The successful surgeon does not dismiss his case after the operation, but follows it up daily and not only directs the aftercare but has personal knowledge that it is being carried out conscientiously, and thereby lessens mortality and morbidity.

GRADED THORACOPLASTY FOR UNILATERAL BRONCHIECTASIS.*

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Bronchiectasis is pathologic dilatation of the bronchi. The dilatation may be saccular, spindle shaped, or cylindrical. The process may be localized to a small portion of one lobe or generalized involving the greater portion of one or both lungs. The lower lobes are practically always affected first. The condition is probably much more common than is generally believed, the disease being recognized chiefly in its diffuse generalized form.

Bronchiectasis is usually preceded by pulmonary infection which leads to chronic inflammation of the bronchial wall. Chief among such pulmonary lesions are aspiration bronchopneumonia, pulmonary abscess especially following aspiration of foreign bodies or infected material, and often the result of inspiratory bronchopneumonia, and

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chronic empyema particularly if associated with bronchial fistula. In other chronic empyema cases there may be partial stenosis of the bronchi resulting from an eccentric shrinkage of the chest wall and of the adherent lung. Subphrenic abscess, notably if perforation into the lung or obstruction of the bronchi have occurred, may be the primary condition. Sauerbruch believes that bronchiectasis is often congenital in type. It may coexist with the chronic types of pulmonary abscess, empyema, bronchitis, or pulmonary tuberculosis.

The characterizing symptoms of bronchiectasis are chronic cough and profuse purulent sputum. The chief conditions which require differentiation are pulmonary abscess, empyema with bronchial fistula, chronic bronchitis, and tuberculosis The history of chronicity, absence of marked symptoms of suppuration, physical findings, roentgenograms, and examination of the sputum characterize bronchiectasis in the more or less typical case, but in many instances it is impossible to determine which is primary and which an associated lesion.

In a given case of bronchiectasis the site and extent of the process may be very uncertain. Roentgen-ray and physical examinations, which are chiefly relied on, may even fail to determine which side is affected. One patient whom I observed at the Mayo Clinic raised from 480 to 960 c.c. of purulent sputum each twenty-four hours and yet a bronchoscopic examination was necessary in order to determine from which lung the pus came. If there is associated pleural thickening, the type of lesion can only be inferred from the history and symptoms.

Prognosis without treatment, or with such sporadic symptomatic treatment as some patients receive, is hopeless as to cure, but some patients may live for many years in comparative comfort. Some may have an absolutely typical advanced grade of bronchiectasis without symptoms, the condition being discovered at necropsy. Others have remittent symptoms alternating between much cough with foul or putrid sputum, and comparative freedom from symptoms. The majority of patients in the advanced condition have a persistent chronic cough, with profuse, often very foul sputum; they are anemic, debilitated, incapacitated, and spiritless.

The surgical treatment of bronchiectasis has been disappointing and discouraging. Mortality has been high, failures many, and even relatively good results few. The reason for the poor results has been in part owing to the shortcomings with regard to the diagnosis of site and extent of the lesion, misconception of the pathologic anatomy of the disease, and late operation.

The operative procedures have embodied three distinct surgical principles; namely, drainage, collapse of the lung, and extirpation of the diseased portion. Great diversity of opinion exists with regard to the relative merits of these procedures and the indications for them. In the first period of surgery for bronchiectasis (until about 1904) drainage only was attempted. That this method would fail to relieve symptoms would be predicated by a consideration of the pathologic anatomy, but the mortality was also excessive. Pioneers of thoracic surgery, such as Garré and Körte reported a mortality of 62 and 79 per cent respectively. Various surgeons have condemned this operation absolutely, but in my opinion, it has a very distinct though limited indication in the localized sacculated type of bronchiectasis, particularly in the presence of acute inflammatory exacerbation.

Primary lobectomy has been advocated as the ideal operation because it removes the lesion, but the mortality has been well above 50 per cent. It would seem open to question whether an operation carrying a mortality so high is justifiable in the treatment of a chronic disease that is in itself not necessarily fatal.

Collapse of the lung has been accomplished by rib resection, artificial pneumothorax, the so-called pneumolysis, and ligation of the pulmonary artery to the affected lobe. Of these methods rib resection only merits serious consideration. Artificial pneumothorax is limited in application to the cases in which there are no adhesions; the collapse obtained is only temporary. Pneumolysis is probably much more hazardous than graded thoracoplasty and would seem less effective from the standpoint of collapse of the lung. Sauerbruch, who originated ligation of the pulmonary artery, considers it worth while only in conjunction with rib resection.

I wish here to direct particular attention to graded extrapleural thoracoplasty. This operation has been considered hazardous and ineffective and if it is performed in one stage, as a Schede operation for chronic empyema, and under gen-

eral anesthesia, it is indeed a hazardous procedure and yields a high mortality. If it is performed in graded stages under regional anesthesia, the amount done at each step being determined by the condition of the patient, the operative mortality

Fig. 1. Bronchiectasis of four years standing; large amount of foul sputum.

should be low. The belief that the operation is ineffective is based chiefly on the argument that it does not produce collapse of the lung. A review of the literature on this point, however, leads to the impression that this is largely a preconceived idea rather than a demonstrated fact. Sauerbruch asserts that in the chronic case in which the bronchial wall has lost its flexibility, shrinkage of the lung does not occur. With the help of the roentgen ray the question of lung collapse can, however, be put to an objective test. (Figs. 1 and 2).

TECHNIC OF OPERATION.

Previous to operation the patient is instructed to empty the secretion from his bronchial tract as thoroughly as possible by assuming an inverted position across the bed with his head near the floor. At intervals of half an hour, beginning two hours before operation, he receives subcutaneously 1/8 grain of morphin sulphate in 2c.c. of 25 per cent magnesium sulphate solution. The operation is performed under combined regional and nitrous oxid and oxygen anesthesia, enough nitrous oxid and oxygen being used to produce a condition which Crile terms analgesia. In my experience such combined anesthesia has been uniformly effective and satisfactory. The matter of anesthesia is of special importance in graded operations of this kind. A painful first operation will undermine the patient's morale for succeeding ones.

First, a posterior resection is performed through a straight paravertebral incision, in two or three sittings. The upper ribs are the least accessible on account of the heavy muscles but it is quite feasible to resect all including the first rib by this approach without any risk to the large blood vessels which lie anteriorly. The ribs are resected subperiosteally, 6 to 12 cm. segments being removed as exposure permits. After the resection the nerve trunks are injected each with a few drops of absolute alcohol. This reduces and often entirely prevents postoperative pain. The sternal ends of the ribs and lower cartilages are resected next. This may be accomplished in one or two sittings. The local anesthesia for the removal of

Fig. 2. Complete collapse of the lower portion of the left lung produced by resection of the third to the ninth ribs inclusive.

both the distal and medial segments is much simplified by the earlier alcohol injection, the anesthetic effect of which persists for some time. The upper medial segments are the most inaccessible in the portion lying under the scapula. If these segments are removed in two sittings, first the lower ones are removed through a straight intercostal or a *T* incision and later the upper ones through a tongue-shaped incision encircling the lower angle of the scapula. At the end of each operation the wound is closed in layers, care being used to approximate the cut edges of the successive muscle layers. Usually a drain is inserted to be removed in twenty-four to forty-eight hours.

Following operation the patient is assisted to assume a head-down position across the bed several times a day in order thoroughly to evacuate secretions. There is usually very little pain incident to this procedure. The patient sits up as early as he feels disposed to, often the third or fourth day.

Eight patients have been operated on at the Mayo Clinic by this method, without a death. One patient developed a postoperative complication, an accumulation of infected secretion under the flap. A very marked collapse of the lung and chest wall has been obtained in all cases. There has been no immediate shoulder drop, scoliosis, or impairment of function. (Figs. 3 and 4).

Fig. 3. Posterior incision. Note the absence of deformity and good mobility of arm.

Fig. 4. Lower anterior and lateral incisions.

Two patients were operated on seventeen months and two years ago, respectively. The first patient was a boy of nineteen, with a postempyema bronchiectasis of two years' duration. The sputum measured about 250 to 300 c.c. in twenty-four hours. The cough and sputum diminished immediately and markedly. Two weeks ago, his mother reported that he was free from symptoms. The second patient, a man of twenty-eight, gave a history of chronic cough with profuse, foul, purulent sputum for as long as he could remember. So far as could be judged from the history, this was a case of so-called congenital bronchiectasis. During recent years the sputum had averaged over 480 c.c. for twenty-four hours. At the last report,

six weeks ago, the patient was in good health and had gained weight; the sputum averaged 30 to 60 c.c. in twenty-four hours.

The other patients were operated on too recently to warrant a positive statement with regard to results, but all have shown very marked diminution of symptoms. One patient who had been completely incapacitated for four years by an incessant cough with profuse sputum, at times exceedingly foul, was dismissed from observation absolutely free from symptoms.

The results thus far seem to justify extending the indications for thoracoplasty to include the earlier cases of milder grade and also those of advanced bronchiectasis.

END RESULTS IN FRACTURES.*

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Fractures continue to find a place in almost every medical program with no signs of waning interest in this condition fraught with so much potential trouble for both patient and surgeon.

We have not yet found the best method of treating fractures, nor any method applicable to all cases though experience with various methods of treatment is rapidly accumulating. The aim of the surgeon is, of course, to restore the framework of the body as nearly as possible to anatomical perfection after injury or disarrangement of its parts.

To restore and maintain continuity, alignment and normal relation of broken bones, so that normal function may proceed after a reasonable healing period, is an object the attainment of which is beset with many difficulties. To overcome these the surgeon's resources are often taxed to the limit. While the pride of the artisan in his work stimulates the efforts of the surgeon to obtain mechanical perfection in his fracture surgery, we have found that a degree of displacement in the fragments of bones does not prevent union and good function and that we seldom get a near approach to perfect coaptation of fragments unless we expose the bone to view and subject the fractures to instrumental adjustment, and even then perfect adjustment is most often not obtained. The past decade has seen sentiment change from correct adjustment by the open method to the less perfect result obtainable by external manipulation only. The degree of displacement that may be left and still give a fair anatomical and good functional result is the question we are trying to decide after employing the various methods and comparing end results.

The X-ray has made our fracture work visible and for a long time it was considered a reproach upon the surgeon if his fractures did not show up almost perfect restoration of the fragments. There was a period when the surgeon who did not scruple to make trouble for the other fellow, pointed to the results of his treatment of fractures as shown by the skiagraph and surgeons often went farther in their efforts to get bones in perfect condition than they would have done had not their reputation been at stake.

It is not easy to explain to a patient why the fracture is not properly set as he calls it, and in industrial accident work where the surgeon is not of the patient's choice but is designated by the insurance companies, the patient's wrath is not easily appeased when he is shown an X-ray plate and told that he has a bad result.

The X-ray has shown us another phase of end results. Patients come to us to be X-rayed for other conditions, and we find results of fractures showing considerable displacement, and yet the part is functioning as well as if there had been no fracture. We have followed our own fractures that have been kept closed with moderate displacement and have found our results better in many cases than in those we have operated on, plated or fixed by some other method. We find that nature has a way of smoothing out kinks, rounding off angles and bridging over defects that is truly wonderful and is beautifully exemplified in the union of fractures.

Anatomical perfection is always desirable, but normal function is of greater importance and if the latter can be obtained only by sacrificing the former then it is better to have a bone shortened or out of alignment with displaced fragments and a large callus than to have a stiff neighboring joint, impaired nerves or atrophied or adherent muscles which sometimes result from our efforts to restore the fragments accurately to their former position, to say nothing of the delayed union sometimes resulting from infection due to over-zealous efforts to get good apposition.

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When Lane simplified the treatment of fractures by cutting boldly down upon them and after replacement, fastening the fragments with steel plates held by screws, the whole system of treatment was revolutionized. We had prior to this time been operating on badly placed or ununited fractures using various means of fixation such as silver wire, silver plates held by silver plated screws, kangaroo tendon, bone and ivory screws and pegs, and an occasional autogenous bone graft cut out with a chisel after much expenditure of time and patience, but these rapidly gave way to the Lane technique and plate. It was found that the tissues in and about a fracture tolerated very well the cutting and handling incident to the open treatment, and that the steel plate was readily adopted into the family of flesh and bone. The strength of the steel plate made it ideal in holding qualities and its low cost made it practicable to keep on hand an assortment of plates to meet the requirements of the varied types of fractures. It was demonstrated also that the ordinary wood screw answered the purpose fully as well for fixation as the silver plated one, was more easily driven in, less liable to break and held more firmly.

The open treatment of fractures became rapidly popular after the advent of the Lane plate and the perfection of the electric drill and saw. The readiness with which the fragments were replaced, when exposed to view and held there so firmly by the plate when properly applied, gave the surgeon opportunity to exercise manual skill in a new way in the practice of his art. When the repair had been made, the pressing applied and the X-ray turned on, the result was fascinating in the extreme and the surgeon naturally compared this result with other cases treated by the closed method. After trying our best to reduce a fracture through the soft tissues by the aid of touch and after obtaining normal strength and alignment and reduction as far as the unaided senses could tell us the result was disappointing when the X-ray was turned on the completed job.

We were not surprised at our lack of success when we cut down on other fractures and found how difficult it was to get the fragments of a broken bone into position until we had removed organized clots or soft tissues inclusions and then after replacement to find how easily they were displaced by the pull of attached muscles.

Comparing the results of the two methods it is not to be wondered at that so many surgeons adopted the open method nor is it surprising that so many attempted to do this work without the proper degree of manual skill, knowledge of the mechanics involved or the proper facilities for doing such work. Poor results followed in some plated fractures. Infection occurred occasionally with its attendant evils ending in long delayed recovery. A broken plate made it necessary to reopen the wound and replace the plate with another, necessitating a new set of screw holes thus impairing the vitality of the bone, increased danger of infection and most likely adherent muscles to the bone and in the wound area. It was also observed that if there was much separation of the bone surfaces of the fracture that the plate was apt to hold the ends apart and cause non-union.

The plating method was therefore not an unmixed blessing and the comparison of the open and closed methods of treatment was continued. It was a well known fact that infection almost never occurred in a simple fracture which remained sealed up and that union usually followed in from six to eight weeks even though the fragments might not have been completely restored to their original position and good function was obtained. The displaced fragments were cemented together by callus and new bone formation and the fracture healed over with an enlargement varying in size with the amount of callus thrown out and if alignment were good this enlargement gradually disappeared.

As we have studied our fractures under the X-ray, comparing the opened accurately placed and fixed fracture with the closed, inaccurately adjusted one, we concluded that perhaps it was not necessary to cut down on a fracture to get a good result and the question arose: What degree of displacement remaining after reasonable efforts at replacement is consistent with expectation of good anatomical and functional result? We know how impossible it is to secure accurate replacement of fragments in some fractures and that this difficulty is real we have repeatedly demonstrated when we have cut down upon the fracture and have removed the intervening soft tissues from between the fragments. It is difficult to explain to the patient or his friends when they see the skiagraph of a fracture that is not in perfect

position, why the displacement is not fully corrected and only those who have had experience in the treatment of fractures can know how difficult it is to accurately replace a fracture. Therefore, there is always a potential cause for trouble for the surgeon in fracture work for unfortunately there is always some one even in our profession who is looking for just such opportunities to discredit the work of the other man. The responsibility of the surgeon then for the results obtained or for the prospect of the end results become a problem and I do not know that the question asked in a foregoing paragraph has been satisfactorily answered by anyone.

Some surgeons say that a displacement of one-half the diameter of the bone is permissible and consistent with good functional result. This certainly should be the minimum limit for the closed method and could we be assured beyond all doubt that infection would not follow I do not think we should permit that amount of displacement to go uncorrected without resorting to open reduction.

The experience of the surgeon and his facilities for operating under ideal conditions must be a part of the consideration and he must fortify himself with a complete understanding with the patient and his friends. Nature's successful effort to unite fractures even when in bad position, is seen in the many specimens in the medical museums and in the X-ray pictures of old fractures we take from time to time, and proves to us that without shortening, angulation or other deformity we may expect all fractures to unite spontaneously even though coaptation is not perfect. I do not believe that any hard and fast rule can be established but that each case must be considered by itself and in the decision we must consider the testimony from every reliable source. Knowing that the reduction is not perfect is always a disturbing thought and one is always much better satisfied if he knows his work is as nearly mechanically perfect as he can make it.

If one wishes, however, to avoid open treatment of fractures the weight of accumulating experience amply justifies finishing the dressing of a fracture with a moderate degree of displacement rather than resort to the open method. The laity has learned much about the treatment of fractures and end results has proven to them that good function does not depend wholly on anatomic perfection.

SOME NEUROLOGICAL MANIFESTATIONS OF PERNICIOUS ANEMIA.*

BY LOUIS M. WARFIELD, M. D.,

MILWAUKEE.

In our enthusiasm to show that blood changes in a sallow but fairly well nourished patient are not those of secondary anemia but rather those of primary anemia we sometimes lose sight of symptoms which are exceedingly interesting and important.

Addisonian anemia has been a recognized entity since 1855, but it was not until 1887 that Lichtheim drew attention to the neurological changes and demonstrated focal lesions in the spinal cord. Since then numerous reports have been made of the type of pathological process found in the spinal cord. How frequent these lesions are is shown by the fact that they were present in 84 per cent of the post mortems collected by Cabot (Osler).

Putnam and Taylor considered that the pathological changes were not peculiar to pernicious anemia but were found in chronic mal-nutrition from any cause. At the present time we are no nearer the cause of pernicious anemia than we were twenty years ago. All we can say is that a similar disease can be produced in animals (rabbits) by repeated injection of toxin like ricin or saponin (Bunting) but just what that toxin is in humans and whence it comes we are ignorant. Hunter's mouth infection theory is not sufficient to explain the cases. The intestinal toxemia theory advocated widely will not explain all the cases. Occasionally typical cases so far as blood picture and symptomatology are concerned are wonderfully improved by draining a nasal sinus or by removing an apical tooth abscess, but not all cases are helped even though evident foci of infection are removed. For us it is still idiopathic anemia.

It is convenient to divide the cases into three groups with regard to the nervous manifestations.

(1) Cases in which the anemia precedes the development of neurological symptoms.

(2) Cases in which the neurological symptoms precede the anemia often for several months.

(3) Cases which at post mortem show changes

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in the spinal cord but which showed during life no neurological features.

Perhaps the symptomatology and neurological signs can best be illustrated by the brief recital of a few selected cases. Only the neurological features will be given. The diagnosis must be accepted as proved by the blood examinations.

Case 1. R. P., a white man aged 39 years entered the hospital April 7, 1920, complaining of weakness. This was so profound that he was forced to stop work. He had noticed for several months past that his feet tingled, felt numb below the knees and he had severe shooting pains in his lower legs. He also complained that he did not know the position of his legs when he did not see them. He had difficulty in walking, "walked like an old man."

On examination the pupils were small but reacted to light and accommodation. There were no cranial palsies. The petalla reflexes were not present, the Achilles jerk was absent. There was a suggestive Babinski and Gordon reflex on the right leg. The abdominal and cremasteric reflexes were present. There was a moderate Romberg sign. Sensation was not disturbed. He was discharged improved June 3, 1920.

He was readmitted June 25, 1921. He had had a transfusion of blood just before entrance. The neurological signs were the same as on the first admission. He was given another transfusion and left August 10th much improved.

On September 21, 1921, he was again admitted with marked weakness and edema of the legs. The neurological signs were the same. He received four transfusions of citrated whole blood and left very much improved October 26, 1921. At present he is in another hospital. His condition is fair.

Case 2. E. D., a white woman 53 years old entered the hospital October 17, 1921. For the past 12 years she had spells of being tired and run down. Was forced to take frequent rests and was off and on taking tonics. Gradually she became weaker so that for the past three months she has been unable to walk. On examination she was pale and poorly nourished. Pupils were equal, round and reacted normally. There were no cranial nerve palsies. Both knee jerks were exaggerated. Babinski and Chaddock reflexes present on both sides. No patella or ankle clonus. Upper extremities reveal no weakness or ataxia. Lower reveal apparently good muscle volume but power much diminished. Considerable ataxia present in the heel to knee test. She desired to go home so was discharged unimproved October 26, 1921.

Case 3. A white woman, 57 years old was seen in consultation June 20, 1921. She had had good health up to about a year and a half ago when she complained of general weakness and was unable to do her housework. After several months she improved but again she was taken with the same symptoms and her family noticed that she was becoming pale. She gradually became worse and a week before admission she was compelled to go to bed. She entered Riverside Sanitarium. On examination she was poorly developed and nourished, weighing only 90 lbs. The skin was of a lemon green color. The pupils reacted to light and accommodation. The knee jerks were absent but there was a bilateral Oppenheim and Babinski reflex present. The extremities revealed marked loss of subcutaneous fat but there was no marked loss of strength in the muscles.

The patient had irregular fever, gradually grew worse and died July 25, 1921.

Case 4. J. M., who was 52 years old was admitted to the hospital from the Hospital for Acute Mental Diseases on August 30, 1920. He had been an inmate of the latter hospital for a month where he had been committed by his family because of his disturbed mental state.

From his sisters we learned the following history: The mother died of cancer of the stomach, otherwise the family history is of no interest. When a child he had "brain fever," he had pneumonia in the early twenties. In 1904 he had an accident of some kind (nature not known) since which time he seemed not to be quite in his right mind. Nothing further was obtained in his past history. The present illness dated four years back when he began to be very weak and irritable. These symptoms have gradually become worse. At times his mouth became very sore and his teeth and gums would be so tender that he could not chew his food. He had no pain, no vomiting, but complained of gas on his stomach. His mental condition became so bad that he was committed to the Hospital for Mental Diseases. There a diagnosis of Manic Depressive Poychosis was made.

Physical examination revealed a pale emaciated man, apathetic but oriented to his surroundings. The pupils were irregular and did not react to light. The lungs and heart showed nothing abnormal. The abdomen was slightly full. There was slight tenderness of the upper half of the right rectus. The liver edge was felt just below the costal border. The knee jerks were apparently absent. The abdominal reflexes were present, there was no Babinski sign. All the muscles were weak but no paralyses were found. There was no disturbances of sensation. The urine was always negative on repeated examinations. W. R. was negative. The prostate was not enlarged, the rectum felt normal and no parasites or occult blood were found in the stools.

On admission the blood count was Hb. 20 per cent (Tallquist), R.B.C. 1,100,00; W.B.C. 6,000. Differential count: Polys. 68 per cent, Sm. lymph. 24 per cent; Large lymph. 5 per cent; Trans. 3 per cent. The blood improved somewhat under treatment, the reds reaching 2,500,000, whites 4,800, Hb. 50% by October 25, 1920. Then coincident with the onset of slight fever his reds began to drop until they reached the astonishingly low figure of 450,000, with Hb 18% (Fleischl), white cells 900. Careful examination of the blood smear showed slight anisocytosis, slight poikilocytosis, rarely a platelet, no nucleated red cells. The leucocytes were very scanty, polys and lymphocytes in equal proportion. The impression gained was almost complete bone marrow aplasia. He gradually grew weaker and died December 26, 1920. No autopsy was permitted.

The pathological changes in the spinal cords of the many cases which have been examined in the past twenty years show a remarkable uniformity. Perhaps the grouping of Putnam and Taylor will give in briefest form the important changes.

1. A diffuse degeneration for the most part limited to the cord, often in more or less discrete patches.

2. A constant involvement of the dorsal and lateral columns without strict regard to nervous systems.

3. A predominance of the lesion in the cervical and thoracic regions.

4. The common freedom from degeneration of nerve roots, both motor and sensory, and of peripheral nerves.

5. The practical non-involvement of gray matter.

6. Insignificant blood vessel changes.

Occasionally the degeneration is quite widespread as in a case reported briefly by Alfred Gordon. There were old and recent changes in Gower's tract, in the direct cerebellar tract, in the crossed pyramidal tracts and in the posterior columns with the exception of the area corresponding to the comma zone of Schultze. There were many vacuoles in the degenerated areas. No changes were found in the blood vessels of the anterior cornua. The greatest changes were in the cervical and upper dorsal regions.

The lesions can not be considered a system disease in the sense that tabes dorsalis is considered. Although the greatest amount of degeneration apparently of an ascending type is found in the posterior columns yet the area of entrance of the nerves into the posterior columns is not found degenerated. The changes are patchy and consist of loss of the neurilemma. Occasionally cavity formation is found. Camac and Milne report a case which was under observation five years; symptoms and signs of pernicious anemia; no neurological features; at the post mortem the characteristic changes of pernicious anemia; in the cord, from the tenth dorsal to the first lumbar segments on the left side there was swelling, with cavity formation, occupying almost exclusively the gray matter; patchy degeneration of the posterior columns, especially in the lower cervical region. This softened area in the anterior portion of the cord caused no signs or symptoms during life. Possibly as they suggested, it was a change which occurred shortly before death. All authors agree that there is no connection between the character of the cord lesion and the neurological symptoms and signs. Nor are these patchy changes peculiar to pernicious anemia as Putnam and Taylor showed years ago. Changes similar in character and extent have been found in a great variety of toxic conditions (Camac and Milne), in cachectic states at times, and in anemic conditions from a variety of causes.

While the pathological findings are interesting the most important side of the story for us practitioners is the variety of neurological signs and symptoms which are so often found in pernicious anemia and which so often confuse and lead away

from the correct diagnosis and the proper treatment.

"Cases of combined sclerosis pass the neurologist without the gravity of the anemia which sometimes accompanies it, being appreciated. It is also true that the internist overlooks the fact that in pernicious anemia changes may be taking place in the cord which only delicate tests by a skilled neurologist can detect." (Camac and Milne). Probably the most common complaint is numbness and tingling in the feet and lower legs. When this is combined with some ataxia, with a positive or suggestive Romberg sign and loss of the knee jerks there is some reason for considering the diagnosis of tabes. Where, too, as in case No. 4, above, the pupils are irregular and fixed the picture of tabes is very closely simulated. The Wassermann reactive may be positive. Cases of pernicious anemia may have had syphilis. Only careful scrutiny of the cases with careful blood examinations will settle the diagnosis.

The reflexes in pernicious anemia may be most puzzling. In two of the cases here outlined (cases 1 and 3) there was loss of the knee jerks with definite Babinski sign. In one case the Oppenheim sign was present, in the other the Gordon sign. Such a curious mixing of reflexes is never present in tabes or in combined sclerosis. When the knee jerks are lost there is no Babinski sign. When there is the Babinski sign there is exaggeration of the knee reflexes with ankle clonus and at times patella clonus. I have no explanation for the unusual combination of reflexes present at times in cases of pernicious anemia. Ataxia is another neurological manifestation found not infrequently. The ataxia concerns exclusively the lower extremities yet the greatest amount of diffuse degeneration is found in the cervical cord.

Paralyses of the lower extremities is seen. This may be largely due to weakness. It is not a true paralysis. Although the patients can not walk they do not lose the use of the leg muscles. The weakness is so profound that they can not support the body.

No sensory changes are found. There is never the delayed sensation so characteristic of tabes. Most interesting and important are the cases, of which case No. 4 is a type, where mental symptoms occur in the course of the anemia and may so dominate the picture that the patient is committed to a Hospital for Mental Diseases for his supposed psychosis instead of to a general hospital. Had this not actually happened to a patient, we might doubt the possibility that such a mistaken diagnosis could be made. In conclusion there are cases of pernicious anemia which show neurological manifestations before or after the onset of the characteristic blood changes. These changes are probably dependent upon the lesions in the spinal cord although there is no correlation between the severity of the symptoms and the cord lesions. Profound mental changes simulating recognized psychoses may accompany the anemia. It is the same old lesson approached from another angle. Care and attention in history taking and in examination will save many an embarrassing moment. the patient gets the benefit of our care and we add to our skill and usefulness as physicians.

SALIENT POINTS IN NORMAL LABOR.*

GRIFFITH SMITH JONES, M. D.,

MILWAUKEE.

The general conduct of normal labor is so thoroughly handled in all text books that only the salient points, regarding which there are many divergent opinions, will be brought up for consideration.

The mechanism of labor is generally agreed upon, and will not be discussed here.

SURGICAL PREPARATION OF PATIENT.

Shaving: As shaving is the most effective way of removing superficial bacteria, the advisability of such a procedure cannot be questioned, and should be done in all cases. True, many men in general practice, especially in house cases, claim that their patients refuse to be shaved. Such an admission or confession on the part of the doctor shows that he believes it necessary, but that he does not have the patient's full confidence.

Cleansing: Cleansing of the patient immediately before delivery may be of either the wet or dry method. The former, a scrubbing with liquid soap and sterile water, followed with an application of sterile glycerine, or the latter or dry method, which is the application of part strength iodine solution, as in many abdominal preparations. If the iodine solution is used, it should not

*Read before the Milwaukee Medical Society, Milwaukee, March 7, 1922.

be applied until shortly before the delivery of the head.

Method of Draping: Sterile drapings, as leggings, sheet, and towels should be used in all cases, for a doctor cannot tell when a patient in labor will move, and bring an unsterile field or part in contact with a sterile glove or gown. This, of course, presumes that the doctor is himself scrubbed and prepared with sterile gloves and gown as for an abdominal section.

OBSTETRICAL ANALGESIA AND ANAESTHESIA.

The desideratum of all mothers and physicians, is an easy delivery—eutocia; but we all know that such is impossible in the great majority of cases, and therefore an attempt should be made to secure analgesia during the painful stages of labor.

For the painful first stage of labor, a small dose of an opiate, combined with hyoscine or scopalamine, gives a certain degree of analgesia and in many cases hastens the first stage of labor. During the second stage of labor, nitrous oxid-oxygen analgesia has given a higher percentage of satsfactory results than has been obtained by either chloroform or ether. The only objection to this method is its cost, which averages from three to five dollars per delivery.

Chloroform, while long the analgesic of choice in obstetrics, has been discarded by most obstetricians, because of the late toxic effects on mother or child.

Ether will, if well vaporized by air or oxygen, give results similar to those secured by chloroform, without the possibility of poisonous effects.

Observation of Foetal Heart Rate.

The normal heart rate of infants in utero may vary from 120 to 150 beats per minute. With such a large variation, it is obviously important to determine as early as possible the normal rate for the individual infant, since we must depend largely on the variations in the foetal heart as a guide to the death of the foetus from any of the conditions which produce intra-uterine asphyxiations. This normal should be determined by counts made before the onset of labor, and checked up during the early stages of labor.

The most frequent danger to the foetus occurs during the latter part of the second stage of labor, after the head has descended on the perineum. Consequently, in any attempt to reduce foetal mortality to the minimum, it is necessary that the foetal heart rate should be counted at frequent intervals during the second stage. It is believed that the rate should be compared every few minutes during the latter part of labor, and when there is a deviation of more than 5 or 10 beats per minute, that the rate should be taken after each uterine contraction, with a count of at least one-half minute. Foetal asphyxia is suggested by a marked slowing during and immediately following a uterine contraction, with a considerable increase above the normal rate just before the next contraction. Absence of this increase after the marked slowing, is usually an indication for immediate termination of labor.

Pituitrin—Pituitrin should rarely be used in primipara. In multipara, only after the cervix has completely dilated, and when dystocia occurs from ineffective contractions. It should never be used as a substitute for forceps when there is evidence of foetal asphyxiation. When used, it should be given in small doses, not to exceed 3 or 4 minims. The foetal heart rate should be counted every few minutes after the administration of pituitrin, and in case of marked slowing, it is usually safer to terminate the labor as soon as possible by means of forceps.

Episiotomy—Concerning this procedure, the pendulum is on the upward swing. A few years ago operators claimed that it was obsolete and unnecessary, while today those same men are performing episiotomies in a large percentage of their cases.

The question arises, when to do an episiotomy. From figures obtained, a visible laceration occurs in 54% of deliveries. However, the finding of a relaxed perineum subsequent to delivery, is evidence that tissue lacerations have occurred, even though the vaginal mucosa was not torn.

Episiotomy should be done when the presenting part is pressing on the perineum, and before over distention and resulting tissue separation has occurred. Many writers urge the necessity of thoroughly dilating the sphincter before making the episiotomy. This undoubtedly lessens the danger of having the sphincter torn, should the incision be extended during the delivery of the head or shoulders.

The location of the incision in an episiotomy is another question at issue. Many very able men

make the incision in the median raphe, others at a lateral line, but the most frequent location is mid-lateral, or just lateral to the raphe, often called postero-lateral. The object of this cut being to direct the tear lateral to the sphincter ani, in case a tear occurs beyond the episiotomy cut.

What is the advantage of an episiotomy, other than arresting a probable tear of the sphincter ani? It is certainly easier to repair an incision made along definite lines and of known depth, than to attempt to repair a laceration made in an indeterminate way, along ragged lines and angles. The incision should be made before the presenting part reaches the extreme outlet of the vagina, thus affording a clear field of non-edematous tissue.

After delivery of the baby, it should be held feet uppermost, and the mucus wiped from the mouth and naso-pharynx with a clean gloved finger. The use of gauze is abrasive to the delicate membrane lining the cavities. In cases of excessive mucus a tracheal catheter is certainly necessary, and therefore should be at hand.

For the first two or three days after birth, a great deal of mucus can be obtained by gravitation, if the baby is laid in its bassinette with the head lower than the trunk.

The time for severing the cord is variable. Most operators seem to be in a hurry, and ligate and sever almost immediately, being very anxious to place the baby in the hands of the waiting attendant. This is a mistake for the cord should not be ligated until the pulsations cease; in the meantime a greater quantity of blood is pumped to the child, which is needed to fill the newly functioning lung tissues.

Third Stage—Much has been written and said about the management of the third stage of labor.

According to one author, more women die from accidents of the third stage of labor than during the other two combined.

Experience has shown that the "hands off" policy leads to the most rapid and satisfactory completion of the third stage.

It should be definitely determined that the placenta has separated, and this can be done by observation and mild or slight palpation. If, after strong uterine contraction, the cord becomes limp and advances from the vulva, or if the uterus rises up to the umbilicus, or if the globular fundus becomes flattened, with a boggy mass over the pubis, it is safe to assume that the placenta has separated. Then, and only then, should pressure be exerted, using the uterus as a piston to expel the placenta from the lower segment or upper vagina.

In case the uterus remains relaxed after the third stage, 1 c.c. of pituitrin, hypodermically, may be given at this time. Pituitrin has a much quicker effect than ergot, and is less apt to cause tissue irritation. Ergot may be given by mouth to sustain the uterine contraction previously secured by pituitrin.

Hospital vs. House Cases.

It must be understood that the proper handling of an obstetrical case necessitates a scrupulous surgical techinque. Everyone is agreed that a surgical case receives very much better care when the operation is performed in a hospital, and therefore very few people expect to have an operation in the home. A similar appreciation on the part of the doctors regarding the conduct of labor, will lead to the rapid education of the people to the fact that a hospital is the proper place for a confinement.

The last ten years has seen a marked change in the number of deliveries in hospitals in our own city. In 1911 only 392 women were delivered in hospitals in Milwaukee, but in 1920 this had increased to 2407, which was about one-fifth of the total deliveries, as opposed to one-twenty-fifth in 1911. This proportion can be increased only through the active cooperation of the doctors and the people.

DIFFERENTIATION OF HYPERTHYROIDISM AND OF HEART FROM NEURASTHENIC STATES.

Burton E. Hamilton and Frank H. Lahey, Boston (*Journal A. M. A.*, June 10, 1922), state that hyperthyroidism cannot be differentiated from neurasthenic states, nor heart disease from these neurasthenic states, by any special laboratory method. These cases can be satisfactorily differentiated in the great majority of cases only by a careful history and physical examination by the unaided senses, with a conscientious balancing of the signs and symptoms of organic disease against those which may be the results of disease. Basal metabolism estimations are of great value as an aid in the diagnosis of hyperthyroidism, but only when not overvalued as evidence, and when the necessity of repeated tests in many cases is realized.

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EDITORIALS

VACATION MEETING OF THE STATE SOCIETY.

THE Seventy-sixth Annual Meeting of the State Medical Society of Wisconsin will be held at Green Lake, September 6, 7, and 8. Members should include this week in their plans for a summer vacation. There is no more beautiful spot in Wisconsin than Green Lake, and members can this year combine a summer vacation with their annual scientific program.

A game of golf, a few hours fishing, or a swim in the lake, sandwiched in between scientific papers, will furnish a delightful and agreeable novelty for a medical meeting.

The Green Lake hotels are far above the average resort hotels, and there will be ample accommodations, as the resort crowds leave on Labor Day.

A splendid scientific program has been prepared by Chairman F. Gregory Connell of Oshkosh. Entertainment includes a smoker on the lawn at Oakwood, Wednesday evening; a fish fry at Sherwood Forest, Thursday evening, followed by a dance; and a physicians' golf tournament at the Tuscumbia Country Club, Friday. This is in charge of Dr. C. U. Senn of Ripon. Prizes will be given, and all golfers are urged to write to Dr. Senn at once, entering for the fray. Players should send in their "Par" and "Handicap" on their home grounds, so they can be properly classified. The program and complete arrangements will be published in the August Journal.

WALWORTH COUNTY PUBLIC LECTURES.

THE Walworth County Medical Society during the present summer has taken the full University postgraduate course in obstetrics, but in addition has accomplished something in the line of public education, of which they may well be proud. They have given in every little town of the county a public program on "Maternity Care a Community Problem." Motion pictures have been supplied without charge by the Extension Division of the University, and a committee of the county medical society has arranged for the place of meeting in halls and churches. The wife of an Elkhorn clergyman has given the lectures which go with the slides and films, and the program is something as follows:

The first four reels of pictures depict "The Gift of Life," commencing with Protozoa and working up through the cold-blooded animals, tadpoles, frogs, etc., and then passing on to the warm-blooded animals, showing the chick from the time of fertilization of the egg up to its coming out of the shell. Then some very modest pictures of child life in Utero, followed by the talk. One reel of pictures on "Infections of the Eye," showing the necessity of proper care, and another reel on "The Importance of Infant Feeding," makes the program about two hours long.

This work should be carried on throughout the State and arrangements for the course can be made by writing the State Secretary. The lecture is printed and can be given by any intelligent layman.

ORGANIZATION POSSIBILITIES.

THE "farewell report" of Dr. Olin West on his retirement as secretary-editor of the Tennessee State Medical Association is of special interest in view of the fact that Dr. West, because of his proved leadership in medical organization, has been chosen for the newly created post of Field Secretary for the A. M. A.

Dr. West will be with us at the Green Lake Meeting in September.

In one brief paragraph Dr. West clearly states how medical organization can accomplish any worthy undertaking. He says:

"Membership in this society should be looked upon as a privilege and as carrying with it very definite obligations and responsibilities, when it comes to be so considered by every man of us, its influence will be great enough to secure the full accomplishment of any worthy undertaking in which the society may engage."

"There needs to be awakened a new spirit of 'community interest' in our county societies and in our profession as a whole. There is too much individualism and too much thought of self where the interests of the whole should be paramount," he says.

In his conclusion he points out that "Spasmodic effort will not avail, temporary rebuff should not discourage. The assumption of the leadership that naturally is ours and a persistent fight to maintain it, through a service that will justly entitle our profession to reassume and maintain leadership, will unfailingly result in good for all mankind. A failure to assert and to exercise the privileges which rightfully belong, to definitely and actively assume the responsibilities which naturally devolve upon us, will unfailingly result in injury to our profession and to the general welfare. The ideals of medicine are the highest human ideals and the highest of them all is that which calls for service without selfishness. However well we may have measured up to the traditions, it can but be beneficial for us to dedicate ourselves anew to the cause of scientific medicine, personally and individually as well as collectively in our society, with a determination to hold high the torch which has been thrown to us to hold by those who have lived and served and died in making the splendid history of medicine as it has been made splendid in this state and in this nation."

AS OTHERS SEE US

THE VIEW OF A LAYMAN.

The editor of a great daily newspaper is, of course, in position to observe the trend of things and is usually one who gives expression of his views after extensive observation and careful consideration. The editor of the *St. Louis Post Dispatch*, being moved by the address of President de Schweinitz at the recent meeting of the American Medical Association, presented some of his opinions relative to medicine in the following editorial:

THE NEW DAY IN MEDICINE.

In his speech of acceptance of the presidency of the American Medical Association Dr. George E. de Schweinitz went to the very heart of the subject of the relation between the medical profession and the public. There is a new age in medicine other than improved devices in fighting disease. It concerns the policy of the profession toward the public in the application of science. Some physicians have resisted professional progress in this line. They would abolish community hospitals and health centers and maintain the strictly private relation which consists of treatment when the doctor is called.

The answer of Dr. de Schweinitz to this attitude is that a "transition from individual to organized practice already has begun" and that the movement is rapidly spreading. This means that the progressive leaders recognize the profession's obligation to the public in fighting disease regardless of the effect on private practice. They regard the benefits of medicine as belonging to humanity and not to the doctors.

Dr. de Schweinitz cites a recent investigation as showing that when preventive public health measures are put into effect with the co-operation of the physicians, "not only is the number of people applying to the practitioner for treatment increased, but his work has been made simpler and more effetive." When idealism is made to pay it ceases to be idealism. But it must not be forgotten that before it was known that idealism in medicine would pay many doctors spent years of devotion to public health rather than to the private fee.

With the profession under such leadership as Dr. de Schweinitz and his supporters the public will feel no misgiving toward the organization of men who, more than any other group of equal number, hold in their hands the power of human

life and death. The public, moreover, should ally itself with this organization to stamp out quackery and drive from the profession elements that would exploit the people rather than assist them to health. It can do this by fighting such measures as that put over by the last Missouri Legislature to grant physicians' license to applicants who pass a state examination, regardless of their education and training.

The pastor of a St. Louis church, also moved by what transpired during the meeting of the American Medical Association, delivered a sermon from which the following extracts were printed in the *Globe-Democrat*.

"To educate public opinion is a painful duty, but it is one that must be faced, and each of the great professions has its allotted task in keeping the public well informed on the subject on which it can speak with authority. We may look forward to the time when many of the diseases which now afflict humanity will have gone the way of typhus, leprosy and cholera; when the average health, strength and beauty of the people will be greatly enhanced, and when those crimes and vices which crop up as if by fatality in certain stocks will be comparatively rare.

The human race is a mere caricature of what it may be in the distant future if science is allowed to pursue her beneficent course unchecked by that false humanitarianism which is kind only to be cruel. Moral and intellectual development will go hand in hand: science and religion will be partners.

Doctors are our modern father confessors. Men and women go to them who formerly went to the clergy. They have earned and they have received the confidence of all who are in trouble about their bodies and of many who are in trouble about their souls. No one can speak too gratefully of the way in which the work is done, of the skill, the kindness the understanding and sympathy, even the toleration of human weakness on the part of the medical profession. Nevertheless, I put this question: Does the medical profession as a whole take its proper part in guiding and influencing public opinion in these matters wherein it alone can speak with authority?"

The editors of newspapers and the preachers of our churches are men who interpret public opinion and who also play an important part in moulding public opinion. What they have to say about medicine and the questions that they raise about medicine should be pondered carefully by doctors.

WHAT SOME OF THE LAY EDITORS SAY.

Among the editorials which appeared in daily and weekly newspapers about the time of the St. Louis meeting of the American Medical Association were quite a number on "Group Medicine." Some of the lay editors profess to see in the formation of an organization by the groups a hint to the American Medical Association that they will tolerate no restrictions imposed upon the practice of group medicine.

The *New Bedford Standard* points out that the poor have been placed on an equal footing with the rich with respect to securing the best medical service, because the charity hospitals and clinics provide them with treatment as good as the money of the rich can buy. But the "in between class, not well enough off to pay big fees, but having some means and too much pride to be charity patients," have been "in a most disadvantageous position. Group medicine, clinics at which fees are charged for service, have in a measure brought the best of medical and surgical skill within the reach of the middle class." This New England paper holds that the clinics "show what medical and surgical science can do; they implant hope where formerly was despair; they send people to the doctors to be cured or to be kept in good health. In the long run," says the *Standard*, "it is likely that the private practitioner is a gainer. Certainly the public is."

The *Sioux City Tribune* can see nothing wrong about group medicine, which it defines as "an approximation to a private hospital where the staff can avail themselves of the knowledge and experience of all the members. It is surely a highly efficient method of caring for the sick. Properly conducted its possibilities for good are boundless. Diagnosis should be simplified and made more certain. Treatment and cure should be expedited. And, quite as important as any other feature to the public, the expense should be reduced."

Under such headings as "The Family Doctor," "Too Many Specialists," "G. P's and Specialists," editors over the country plead for the return of the "all round family doctor" or defend the development of specialization in medicine, according to their several viewpoints.

The *Denver Times* wants the old-time general

practitioner and family doctor restored to the place which he once occupied in the esteem and affections of the public. "Specialization has run riot in medicine during the last ten years," says the *Times*, and "it is time for the 'old family doctor' to return, the physician who was not only well grounded in medical knowledge and trained in the school of varied experience, but possessed of common sense and genuine humane sympathy." The editor of the western paper, a very smooth writer and a hard hitter, insists that "versality in medicine is much to be desired," and thinks that specialists are inclined to be "single trackers" who know little outside of their especial fields. Admitting that specialists have done much to improve technique and to advance the cause of medicine, the Denver editor decries the growth of specialism and says "the present tendency, carried to its logical conclusion, means that every man must employ a corps of specialists to look after health of his family. It is fast coming to this unless steps are taken to develop the general practitioner anew and to stop the influences which have weakened confidence in his judgment and ability."

The *Hartford Times* is for the specialist and for the general practitioner, too, with an apparent leaning toward specialization as offering more than can otherwise be had for the public benefit. "The old-time family physician, who let the children play with his watch chain and who gave them enormous doses of calomel and whiskey and quinine for almost anything, 'got away with it' but knew surprisingly little about the human body. On the other hand he often knew more about the human soul than does the learned specialist of today and was able to boom his patient back to health by sheer force of personality. Just as many times, however, he was unable to function at all and was pitiably helpless in situations which today seem relatively simple to the medical man. There cannot be too much specialization in medicine and, just as truly, there cannot be too much of the friendly sympathy of the old-time family physician." The *Times* cites the progress made in the treatment of nervous and mental diseases, tuberculosis, cancer, children's diseases and in other special lines as ample justification for specialization, and then, after pointing out the fact that some specialists are keen for the dollar, concludes: "Competent specialists and general practitioners with the scientific spirit both should have a distinct place in the medical field."

The position of the House of Delegates of the American Medical Association at St. Louis with respect to "state medicine" inspired numerous editorials of the lay press.

The *Fall River Globe* defines state medicine as "any form of medical treatment provided by the federal state, county or city government." The *Globe* makes it clear that the doctors do not oppose state control of communicable disease, nor treatment and care of the indigent and insane, nor preventive measures initiated by the state for public health, and then agrees that "there is, as the doctors maintain, too much of a disposition on the part of the state to take up work with which it should have nothing to do in an active way. And, as the doctors declare, the state's paternalism is sure to result in community irresponsibility."

The *Urbana Courier*, which we gather is not often in agreement with doctors, appears to be a somewhat rabid opponent of state medicine or any other movement which bears even a semblance of the stamp of paternalism. This paper professes to believe that state medicine is a product of the activities and preachments of the doctors themselves, through their insistence upon the benefits to be derived from health examinations and treatment. The *Courier* opines that the "continual, constant coddling, nursing and babying of the individual by the group is the most dangerous tendency in American public life of today. We are making weaklings out of individuals, undermining the national character, taking away the need or necessity for self-reliance, and teaching old and young to believe that it is some one else's job to look after us."

The *St. Louis Post-Dispatch*, in an editorial, "The New Day in Medicine," says "There is a new age in medicine other than improved devices in fighting disease. It concerns the policy of the profession toward the public in the application of science. Some physicians have resisted professional progress in this line. They would abolish community hospitals and health centers and maintain the strictly private relation which consists of treatment when the doctor is called." Referring to "a transition from individual to organized practice already begun," which the *Post-Dispatch* states is rapidly spreading and which "means that the progressive leaders recognize the profession's obligation to the public in fighting disease regardless of the effect on private practice. They regard the

benefits of medicine as belonging to humanity and not to the doctors." Incidentally, the *Post-Dispatch* brings home to the public its duty to actively ally itself with the medical profession to "stamp out quackery" and to fight "such measures as that put over by the last Missouri legislature to grant physicians' licenses without requiring applicants to have the necessary education and training."

THE JOURNAL CLINIC

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The University of Wisconsin.

THE UNIVERSITY OF WISCONSIN MEDICAL SOCIETY—MAY MEETING.

1. THE DISTRIBUTION OF ELASTIC FIBRES IN THE LUNG.

F. W. MADISON.

Mr. Madison stated that literature on the subject of the elastic tissue of the lung was scanty and inaccurate, and furthermore, that most of the study had been directed toward the elastic tissue of the larger bronchi and but little on the elastic structure of the smaller bronchi and alveoli. The lungs of the human, dog, and monkey were studied in serial section using special elastic tissue stain. In discussing the elastic tissue of the bronchial tree Mr. Madison described the subdivisions of the bronchus to its ultimate ending in the ductulus alveolaris. He stated that there were three coats ordinarily described, namely, the mucosa, submucosa and fibrocartilaginous coats. He next described the longitudinal elastic fibres of the most external portion of the mucosa. One of the peculiarities of this longitudinal elastic layer was its sphincter-like arrangement about the bronchial subdivisions, wherein the elastic fibres occupy two sides of the triangle, the base of which was completed by muscular fibres. In describing the muscular layer he stated that fine elastic fibres through circular and longitudinal arrangement formed the network immediately outside the more or less circularly placed muscle fasiculi; and in the main this group of intermeshing elastic fibres lies between the muscular and fibrocartilaginous coats. The fibrocartilaginous coat contains the cartilage (which is entirely hyaline in the human) arteries, veins, and nerves. About the cartilages is placed a longitudinal dense network of elastic fibres. In discussing the distribution of the elastic fibres in relation to the bronchi, Mr. Madison stated that the internal longitudinal layer continued as we descended along the bronchial subdivisions into the bronchials. The basement membrane, however, was not elastic tissue. The fibrocartilaginous coat decreased markedly as one descended into the smaller subdivisions; but the elastic fibres of the muscular coat reenforcing in a sphincter-like arrangement the muscle layer were continued as far as the respiratory bronchioles. The longitudinal fibres blend with the elastic fibres of the artery at the atria and at the individual junctions of the ductuli alveolari with the alveoli again tend to arrange themselves in a sphincter-like fashion. The muscle fibres stop here, but the elastic fibres continue into the wall of the alveoli, apparently lying parallel to the top of the same, and latterly tending to form an alveolar sphincter.

Mr. Madison next took up the question of distribution of the elastic fibres in the vessels of the lung. He stated that the pulmonary artery showed the media rich in elastic tissue which was easily marked off from the intima and adventitia in the smaller subdivisions. Longitudinal fibres, internal and external remained, whereas the circular fibres were first lost. Next the outer longitudinal layer is dropped and the inner elastic fibres blend with those of the alveolus. The same conditions pertain in the veins where the circular fibres are more marked and tend to form a more definite network. This anatomic difference between the smaller veins and arteries proved of considerable importance in this study.

In discussing function Mr. Madison stated that longitudinal fibres would tend to draw the bronchi toward the hilum on expiration and that these fibres would obviously be put on a stretch in inspiration, the same being true of elastic fibres of the alveoli. The communication of the elastic tissue of the artery and vein to that of the alveolus would naturally tend to elongate the vessels in the full expansion of the alveolus. He further stated that these observations confirmed the common statement as to the action of the muscular structure in narrowing the lumen of the smaller bronchioles, and added that the elastic fibres would act in the same direction.

This paper was discussed by Mr. Leake and Drs. Bradley and Loevenhart.

2. RELATION OF THE LENGTH OF THE INTESTINE AND ITS ABSORPTIVE AREA TO SITTING HEIGHT.

G. G. MUELLER.

Mr. Mueller, in following the work of von Pirquet, stated that the relation of the length of the intestine to the sitting height was given as from 6-1, to from 12-1, whereas in his own work on seven cadavers, measuring from the stomach to the anus, an average of 8.2 to 1 was determined. Sappey gives the figures for the absorptive area of the intestine as 50,000 square centimeters in the undistended and 100,000 square centimeters in the distended intestine. Von Pirquet, giving about 700,000 square centimeters as the absorptive area of the bowel, stated that it depended on the square of the sitting height. By measuring the displacement of water on placing the intestine of a known length and thickness into the same, the surface area of this segment was determined by Mr. Mueller and by comparing this figure with the length of the bowel he arrived at an average of 530,400 square centimeters as the true absorptive area in his group. An error of 400-1000 square centimeters was admitted in determining the ultimate factor of relation of sitting height to absorptive area. The factor derived, however, was

$[SH^2-(SH\ 10)]\ 100$

3. THE RELATION BETWEEN HYDROGEN-ION AND AUTOLYSIS IN THE LIVER.

GEORGE R. LAUTENBACH.

Mr. Lautenbach began the discussion of his subject with the statement that autolysis developed in the presence of acid reaction. The tissues for study (in this case, liver) were obtained under aseptic precautions, ground and preserved in toluol at body temperature. With digestion there was a development of amino-acid whose amount was an index of the degree and rapidity of autolysis. Acids tend to increase this rate. 35% of a fifth-normal hydrochloric acid was determined to be the maximum point, whereas beyond this point the further addition of acids inhibited autolysis. There were two factors in this reaction which were under consideration in this study, namely the hydrogen-ion concentration and the alteration of the tissue proteids to a digestible form. As the PH increases, the speed of autolysis increases to the point of PH 4.5. Then a sudden fall indicating inhibition occurs at a PH 2.9. If autolysis in relation to these two factors depended on the alteration of basic proteid salt to an acid proteid salt digestion should be more complete, Mr. Lautenbach stated. If the changes indicated depended on the activation of an enzyme, the speed of autolysis should increase with the acidity, and decrease with the same, and furthermore, digestion should ultimately under proper conditions be complete. It was stated that this was never true. With a PH 7.5 there is no digestion of liver. It was further determined that insofar as aid to digestion was concerned, weak acids were equiva- but not in its rapidity. It was concluded in this respect that the rapidity of the reaction depended on the PH, whereas the extent of the autolysis depended on the total titrable acid present. Ultimately in either case the same level of total reaction would be attained. It would appear that on one hand the acid activates an enzyme controlling speed and on the other changes the reaction of the proteid to control its ultimate level of conversion. On death there is noted development of weak mineral acids with rapid tissue breakdown. The same phenomenon occurs in phosphorus poisoning and in the lethal gas poisonings of warfare.

4. STUDIES IN EXPERIMENTAL PNEUMONIA.

T. K. BROWN.

Mr. Brown stated that the report of the evening represented but certain phases of the comprehensive study of experimental pneumonia pursued in the laboratories of pathology, bacteriology, physiology, and physiological chemistry in the past two years. Without entering into the subject deeply he stated some of the determinations from the standpoint of physiological chemistry and then entered upon the discussion of the pathological-bacteriological studies. In the beginning the Bacillus mucosus capsulatus (Friedlander) was the strain employed; but it proved unsatisfactory in that early fatality prevented any continued study. The Bacillus bronchosepticus was used throughout the year 1920-21. With it a patchy pneumonia was developed under typical conditions with considerable bronchial involvement, much fibrin deposit and common pleurisy accompany-

ing. Finally pneumococcus type II was employed and a high virulence built up by injections of rabbits and dogs was obtained. With this virulent strain by intratracheal insufflation methods lobar lesions resulted on an average of 24 hours after injection. The order of progression was from hilum toward the periphery. There were 100% positive results, an unusual and striking commentary on the method pursued. Discussing some of the laboratory findings, Mr. Brown stated that the erythrocytic count in the bronchosepticus and mucosus pneumonias dropped whereas in only one of the pneumococcus pneumonias was this fall determined. Hematocritic readings corroborated this finding as representing a true fall in red cells. By basal metabolic studies a reduced oxidation was determined.

The paper was discussed by Mr. Leake, Drs. Eyster and Koehler.

5. X-RAY STUDIES IN HEART SIZE.

L. W. TASCHE AND A. E. MEINERT.

Mr. Tasche in opening his discussion stated that various methods for determining the heart size and output had been previously applied depending on the rapidity of blood flow in vessels of a known caliber, on gaseous absorption or a study of the concentration of inert substances added to the blood stream. All these methods necessitating the ultimate sacrifice of the animal obviously ruled out any clinical application. The x-ray, however, as a medium, had been for some time the method of choice and in this respect he quoted the work of Dietlen, Moritz and de la Camp. For determining the heart size the Bardeen formulæ, dependent on the study of teleroentgengrams of a large series of normal and abnormal individuals, were utilized. The Eyster-Meek method of determining the difference in heart size in succeeding cardiac cycles as estimated from x-ray exposures accurately placed in the heart's diastole and systole respectively, was utilized in this study. The electro-cardiogram was used in controlling the time of exposures. The systolic exposure was made at the peak of the R wave; and by specially constructed device which on one hand caused the displacement of the first plate and adjustment of the second and on the other hand by a falling weight broke a second circuit at the height of the T, the diastolic exposure was made. Seventeen individuals were studied and an output of five liters per minute was determined as an average, the limits being 2-15 liters. 73 cubic centimeters was determined as average output per beat. This figure, of course, being deduced from the difference between the systolic and diastolic heart size as determined by the two above obtained exposures. Light exercise lifted the average output to 11 liters per minute with an average of 100 cubic centimeters per beat. In most cases this increased output per minute is accomplished through an increase in the output per beat plus an increased rate. However, where the upper limit of 15 liters output per minute was determined there was the highest output per beat without relatively increasing rate. Athletes as a group showed definite increase in the output per beat. In 7 out of 17 the diastolic size of the heart on exercise was increased with the increased minute output. (Obviously the field opened by this more accurate method of study of the cardiac work will bear fruit in the study of hemodynamics of many common yet poorly understood clinical circulatory conditions.)

6. STUDIES IN CAPILLARY PRESSURE.

E. L. HOLCOMBE AND P. C. GATTERDAM.

Mr. Holcombe discussed the historic background of the study of the capillary and emphasized the importance of such work in that it is in this area that the blood stream actually functions, the larger vessels to and from a part representing merely channels of communication. The knowledge of blood pressure, arterial or venous, therefore, would not constitute adequate knowledge of the circulatory conditions in the various tissues to be nourished by the blood stream; but a study of the capillary bed and of capillary pressure would greatly assist in this respect. The older authorities give an unusually wide range of figures for the capillary pressure, 7—70.5 mm. With the improvement of the microscopic capillary tonometer by Hooker a new stimulus has been given to this work. The skin over the matrix of the nail is the best point for capillary observation since at this point the vessels occupy a position almost horizontal to the skin surface. The skin is cleansed thoroughly with soap and water, then washed well with 2% sodium hydroxide and dried with 95% alcohol. Mr. Holcombe discussed in some detail the technique of taking capillary pressures and stated that on 3-5 mm. of pressure normally there

appeared slight acceleration of the corpuscles within the capillaries. Further pressure slowed them and ultimately stopped the flow. The cessation of motion was succeeded by a to and fro oscillation in the capillary loop and on absolute cessation of forward flow there was some retrograde movement. On reversing the procedure, the release of pressure will obviously permit a return in the flow, and the level at which this occurs is read as the capillary pressure. In twenty cases an average of 21.81 mm. of mercury was determined for the sitting posture normal. Hooker's figures are 22 mm. In the prone position the figures are 5 mm. lower. An accurate observation of the character of the arteriole and venous loops was made and the type of flow determined to be steady in the same. A group of six cases of rheumatic fever with signs in the peripheral circulation of aortic regurgitation without any demonstrable lesion at this valve was studied. In spite of the fact that a gross capillary pulse had been determined in each of the six, capillary observations revealed a steady flow without any pulsatile variation. The conclusion, therefore, was that they were dealing with a pseudo capillary pulse or one in the arteriole. However, the capillary pressure in these cases was 5-6 mm. higher than the normal. Study of the capillaries in a typical aortic regurgitation case of long standing revealed a continuous flow without definite pulsation and here capillary pressure was again higher (10 mm.) than the normal.

7. THE RELATIVE VALUES OF A NEW SERIES OF LOCAL ANAESTHETICS.

H. L. SCHMITZ AND E. A. RYGH.

Mr. Schmitz outlined the objects of this study stating that there had been an attempt to establish a relationship between the chemical composition and the pharmacologic action, and lastly to establish the clinical value of the drugs under study on such basis. The ethanol (or dimethylene) series and propanol (or trimethylene) series were studied with cocaine as a control. The winking reflex on stimulation of the cornea of the rabbit was followed each minute after flooding the conjunctival sac for a given period. By a special pressure apparatus arranged on the beam balance it was possible to apply a definite weight to the cornea, .85 grams being used as a measure of light pressure and 9.85 grams representing heavy pressure. The reflex obtained on heavy pressure but not on light represented partial anesthesia, whereas an absence of reflex with both represented complete anesthesia. This more accurate method permitted a relatively exact comparison. Mr. Schmitz stated that their study had determined a progressive increase in the efficiency ratio as one advanced from the ethyl to the butyl group in the replacement radical of either series. The trimethylene group proved to be stronger than the dimethylene. The toxicity of the substances studied was determined by subcutaneous injections of white mice and those with butyl radical proved most toxic. The iso and normo-propyl compounds according to these studies should be the most useful of both groups since the toxicity of the other products would eliminate them.

Reasoning from their studies, Mr. Schmitz stated that since the duration of anesthesia was more than doubled on the doubling of the concentration, local anesthetics in high dilutions found little justification. He added that this point was doubly true in view of danger of toxic reaction when the total amount of the drug employed was frequently high in the dilutions now employed.

UNIVERSITY OF WISCONSIN MEDICAL SOCIETY—JUNE MEETING.

STUDIES ON ISOHEMAGGLUTININS.

DRS. W. F. LORENZ AND W. T. BLECKWENN.

Dr. Lorenz stated that the incompatibility of the bloods of different species had been recognized for many years. However, not until 1900 were the two phenomena of incompatibility, namely agglutination and hemolysis, of the corpuscles separated. After defining these phenomena Dr. Lorenz developed the historical aspect of the differentiation of human bloods into several groups according to the isochemagglutinins. Landsteiner determined the presence of two agglutinins and assumed the presence of two specific receptors.

By diagrams Dr. Lorenz developed the theory of blood grouping according to the Moss nomenclature. He stated that the serum of the new born contained little or no agglutinin whereas the corpuscles were agglutinable. It would appear, therefore, that the receptor group was first developed

in the corpuscle and that the agglutinin of the serum was later added. He quoted studies that showed a progressive increase in the agglutinin of serum until at ten years all group according to their adult classification. In fact, all but one had reached this grouping by the end of the second year. Breast-fed children showed no increase of agglutinin over the bottle-fed. Then too, it is well known that the child is not always of the same type of the mother. Indeed, the Mendelian Law would seem to be applicable in the determination of the receptor formation. Briefly, there was sketched the scanty knowledge concerning the agglutinins and receptors of rabbits, steers, and frogs. By means of an extremely clear moving picture the whole problem of agglutination and incompatibility from this series was outlined.

Of the groups, Group I contains less than 5% of all individuals. Its serum contains no agglutinin but the corpuscles contain both of the receptors. It is never used as a donor. Group II contains 30% of all individuals; the serum contains agglutinin B and the corpuscles receptor A. Group III, 10% of all individuals; the serum contains agglutinin A and the corpuscles receptor B. Group IV includes 55% of all individuals and its corpuscles contain no receptor, while the serum contains both agglutinins in small quantities. This group is known as the universal donor. Dr. Lorenz briefly sketched the symptoms indicating the reaction of incompatible bloods. Vomiting, diarrhea, collapse, and edema have been noted. Characteristically the peripheral blood shows leucocytes containing many red blood corpuscles.

Certain practical points arising in the work of the Psychiatric Institute have led to detailed researches in certain directions. How long is the corpuscle agglutinable, constituted the first question studied. There was no change in the agglutinability of the corpuscles in clots three days old; indeed little before five days. However, the lysis of many corpuscles makes determinations impossible after this time. Corpuscles on the clot were found to be agglutinable at seven days and microscopically this reaction was noted as late as ten days. 10% whole blood in 3% citrate showed agglutinability to five days. 10% whole blood in normal saline up to 5 days, whereas washed corpuscles showed the reaction only up to four days. The corpuscular change (that is to say, the receptor) is much more rapid than the serum change (agglutinin). The amount of agglutinin present in serum constituted the next stage in the study. Considerable variation was determined in individuals of the same group. It is important in these studies to have an exact amount of corpuscles and to study exact time relations. Thirty minutes was taken as the time limit in the group of 63 cases studied. Eight showed the agglutination at 1%; 11 at 2%; 20 at 3%; 16 at 5%; 4 at 10%; 1 at 30 % and 3 at 50%. It was next undertaken to differentiate between the agglutinin A and B in a single serum. This was accomplished by the saturation with a bireceptor corpuscle such as exists in Group I. In this respect it was interesting to note that there was no appreciable loss of complement when agglutination tests were applied subsequent to the application of complement fixation of the hemolytic type. So that these workers concluded that agglutination is not a manifestation of a complement activation. In studying these phenomena they furthermore, by a dilution series, demonstrated that 100% was not the point of optimum reaction for the agglutinin. Indeed from 40-60% showed a more active reaction. A point of extreme practical importance was raised by a consideration of the knowledge of reactions in a certain number of cases transfused by a universal donor (Group IV). It is well known that the serum of Group IV contains agglutinins A and B and there is obviously some danger of agglutination in the recipient. To determine the minimum safe amount of blood which might be used from Group IV the following formula was derived:

$$B \times A = \frac{\text{Amt}}{2}$$

In this formula the (B) equals Blood Volume and is obtained by dividing the body weight in grams by 10. (A) equals lowest percentage at which agglutination occurs with the serum of the donor. The multiplication of these two factors derives a quantity which is below the safe limit by reason of a natural protection in any blood of the so-called anti-agglutinins which are said to protect up to 50%; hence the multiplication by 2.

This paper was discussed by Drs. Bradley, Clark, Bleckwenn, Meek, Bardeen and Guyer.

INTERMITTENT HEPATIC FEVER (CHARCOT'S FEVER); A CASE REPORT.

By R. L. McINTOSH, M. D., and ETHEL THEWLIS.*
MADISON.

In 1877, Charcot[1] described an interesting syndrome, whose clinical manifestations were recurrent attacks of pain, fever and chills with deepening jaundice. A periodicity in the occurrence of the chills and fever suggested malaria; but such cases have been determined to depend upon a peculiar ball-valve action of a calculus lodged in the common duct. Osler's monograph[2] is the most comprehensive discussion of this condition in the literature.

The following case incorporated the classical features of this symptom-complex and, too, presented an unusual hematologic picture.

CASE—F. C. Age 30 years. White, female student admitted to the University Infirmary, June 6, 1922.

C. C.—"Pain in abdomen."

H. P. I.—Without warning or previous feeling of ill-being was awakened this morning by sharp cutting pain in the upper abdomen. The pain was intermittent in occurrence and colicky in nature at times but unreferred. It was accompanied by nausea and patient vomited eight times. Bowels had been normally active; and pain had no apparent relation to act of defecation nor urination.

No history of dietary indiscretion could be elicited. The menses were remote—12 days past.

P. M. H.—An attack similar to the present had been experienced during the Fall of 1921 (October). However the pain had been less severe; and after one day in bed, patient had resumed normal duties.

S. H. and F. H.—Without bearing on present condition.

Physical examination—

No abnormality of note in nose, throat or chest.

Abdomen showed a general increase in resistance with particular reference to entire right rectus. There was definite but diffuse, unlocalized tenderness. No inflammatory mass nor organic enlargement determined.

The temperature was 97 8 10 F; pulse, 80; respiration, 20.

The leucocytic count was 20,000.

Patient was kept in bed with ice cap to abdomen on a starvation regimen.

June 7, 1922—There was little change in general or local conditions except that the temperature rose to 100° at 4 P. M. and to 101° at 8 P. M. The pulse increased to 100. Leucocytes numbered 15,800.

June 8, 1922—The abdominal findings were still indefinite. Slight icterus of the palate was remarked. The urine, however, was negative for bile or other abnormal constituents.

At 10 A. M. the leucocytic count was 18,200.

Differential—Polymorphonuclears, 84.5%.
Lymphocytes, 13.
Transitionals, 0.5.
Eosinophiles, 2.

At 12:30 P. M. patient experienced extreme feeling of discomfort, which soon led to a severe chill lasting one and one-half hours. Nausea and vomiting occurred through the chill. At termination of same temperature rose to 102° and by 4 P. M. had reached 103°. There were no sharp pains accompanying. Complained of general body aching.

The entire right abdomen was markedly resistant; but this resistance was most marked over the middle segment of the right rectus. There was no tenderness. Rectal examination was negative.

At 4:30 P. M. the blood count was as follows:
W. B. C., 4,200.
Polys., 82.5%.
Lymph., 5.5.
Trans., 12.

At 5:30 P. M.—
W. B. C., 9,600.
Polys., 83.5%.
Lymph., 5.
Trans., 11.5.

At 6:30 P. M.—
W. B. C., 13,800.
Polys., 82%.
Lymph., 6.
Trans., 12.

At 7:30 P. M.—
W. B. C., 13,600.

At 10 P. M. (at which time temperature had fallen to normal)—
W. B. C., 20,000.
Polys., 76.4%.
Lymph., 9.2.
Trans., 14.4.

June 9, 1922—8. A. M.—Sclera and palate had become definitely icteric. Although experiencing no pain nor tenderness, patient still was very resistant over right abdomen. This resistance was most marked over middle of right rectus just below the level of the umbilicus. The liver was distinctly palpable.

At 12:30 P. M.—Chill recurred. It was not so severe as yesterday's; but temperature rose from normal to 102°.

W. B. C., 4,000.
Differential—Polys., 55%.
Lymph., 18.5.
Trans., 25.5.
Eosin., 1.

Only urinary findings of significance were trace of albumin and acetone.

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[1]Charcot: Leeons sur les Maladies du foie et des Voies biliaires, 1877.

[2]Osler: Johns Hopkins Hospital Reports, Vol. II, 1890.

*From the Department of Clinical Medicine, University of Wisconsin.

At 4:15 P. M.—W. B. C. had risen to 21,600.

Differential—Polys., 70.5.
Lymph., 9.
Trans., 20.
Eosin., 0.5.

At 7. P. M.—W. B. C., 20,000.

Differential—Polys., 69.5%.
Lymph., 15.5.
Trans., 15.

A duodenal drainage was performed after the installation of 30% magnesium sulphate solution. Bile A and C showed a peculiar, definite blue green color, while bile B was dark green. Pus cells were very abundant in bile C, although present in all samples. Bacilli, streptococci and spirilla were found in stained specimens. (Unfortunately no cultures were made.)

June 10, 1922—Definitely deepening of the jaundice in sclera and palate. Skin began to show tinging. No pain or discomfort. Abdomen showed no tenderness. The resistance was as previously noted. Liver and spleen both palpable.

While temperature rose to 101° at 5 P. M., there was no chill.

Leucocytes were 14,400 and 14,800 at 1 and 7 P. M. respectively—the polymorphonuclears rising to 79%. Blood culture reported negative.

From this point until discharge a week later there was steady improvement. The jaundice cleared up and leucocytes fell gradually to reach 7,800 on evening of June 11th. No subsequent rise.

This case, then, presented the clinical picture of a sudden onset of upper abdominal pain (with the history of a previous milder attack), nausea, vomiting, severe chill repeated on the succeeding day and jaundice of low grade. There was a complete absence of definitely localizing abdominal signs. The unusual leucocytic crises attendant on the chills are noteworthy.

From the standpoint of diagnosis, malaria and syphilis may be ruled out by the absence of their characteristic laboratory and clinical findings. The leucocytosis coupled with recurrent chills suggested a septicemia of obscure origin, even in the absence of a positive blood culture. The history of upper abdominal cramp succeeded by jaundice, of course, indicated a common bile duct obstruction. The syndrome termed Charcot's Fever is rarely one of acute or early common duct obstruction; and furthermore, the recovery of adequate bile on duodenal drainage would rule out the continued presence of an obstructive (ball-valve) calculus. However, it is conceivable that the same mechanical result might arise from a heavy plug of mucus or inspissated bile. In such case, the back pressure of bile would only reach a point sufficient to cause absorption and chills at a given point. At a higher pressure this obstruction might be overcome with a relief of symptoms; and then a second plug might repeat the cycle. The probable presence of an infected bile (and biliary passages) as indicated by the drained bile, must be borne in mind. An organic obstruction or one due to calculus would seem improbable in view of the clinical course.

The leucocytic curve is most interesting. The leucopenia attendant on the chills may have one of several explanations. Either it was dependent on the extreme vaso-motor activity of the chill, giving rise to a peripheral picture entirely foreign to that in the larger vessels or the concentration of blood in the splanchnic area may have determined this striking fall in white cells. It would seem highly improbable that such wide variations in relatively short periods of time could arise from a depression with subsequent stimulation of the hemopoietic mechanism.

From the standpoint of treatment, it will be noted that no chills occurred subsequent to duodenal drainage. Significant as this point may be, no stress is laid on it in this relation, since the procedure was followed from a purely diagnostic ground.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical
Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

CONTROL OF COMMUNICABLE DISEASES.

W. D. STOVALL, M. D.

Notwithstanding the advances made in knowledge concerning the causes and the means by which they are spread, communicable diseases still remain uncontrolled. The danger to school children from these diseases is as great, and in some cases seems to be even greater than it was two decades ago. The schools afford ideal conditions for the dissemination of infections of all sort. The opening of the schools is always marked in a few

weeks by a great increase in scarlet fever, diphtheria, and other infections and contagious diseases. Coincident with the closing of school there is a pronounced decrease in these diseases. It is certain that the school is a focus from which infection is spread into the community.

This failure on the part of health departments to reduce the hazard from diseases for which they have set up definite methods of control causes considerable doubt either as to the methods or the way in which they are being applied. Mr. W. C. Sieker, Shorewood, Wis., has issued a pamphlet, "Health Education in the Schools," which suggests some of the most important reasons why communicable diseases remain such a serious menace to the school child. This paper is very largely a quotation from his pamphlet.

Medical inspection was introduced into the school many years ago to control the common communicable diseases. In so far as its original objective is concerned, Dr. Rosenau, Preventive Medicine and Hygiene (1921 edition) says that "it at once must be admitted that it has been a failure, for it has had but very slight influence upon the prevalence of measles, scarlet fever, diphtheria, whooping cough, mumps, and so forth.

The statistical bulletin of the Metropolitan Life Insurance Company basing its conclusions upon the records of its more than 10,000,000 policy holders, commenting on the higher mortality in 1920 over 1919, due to diphtheria, measles, scarlet fever and whooping cough, declares that the downward tendency has been so trifling as to raise the question whether the present line of attack on these conditions is producing results commensurate with the cost. "Do we need a radical change," it adds, "in methods of public health procedure against these enemies of childhood?"

A recent bulletin of the State Board of Health calls the attention of the health officers to the fact that scarlet fever morbidity in Wisconsin last year was the highest in ten years.

Dr. W. A. Evans, former Commissioner of Health of the City of Chicago, reviewing the history of the department for fifty years makes the statement that respiratory ailments (excepting tuberculosis) have constantly been on the increase and are still gaining. The pneumonias everywhere, it seems, are more prevalent and deadly than ever before.

"Are we expending enough effort in breaking the channels of communication of these infections, and are we doing it in full knowledge of the natural history of each of these diseases?"

It has been said already that the schools are foci from which infection spreads into the community. This is proven by the sharp upward turn of the morbidity curves for the communicable diseases when school opens. Is not then the strategic point in this fight the schools? Is the problem not largely a school problem? Can not the schools be conducted on a higher humanitarian plane?

The objectives of such a campaign may be enumerated as follows:

1st—Elimination of the school focus of infection.

2d—Elimination of the neighborhood focus of infection.

3d—Attempt nothing else this year, nor perhaps the next year.

The methods to be employed to gain such objectives naturally fall into two classes, positive and negative.

The positive methods consist of compiling the few simple facts concerning, 1st, the natural history of communicable diseases. The indefiniteness of early symptoms is well known. Physicians are unable to make early diagnoses. It often takes from several days to weeks to make a diagnosis. Communicability is often established before a diagnosis is possible. For this reason quarantine and isolation should be practiced before the diagnosis is made. It is as important to isolate a case pending a diagnosis as it is to quarantine after the disease is identified. The physician who fails to follow this principle is standing in the way of progress. The physician who because of jealousy for his dignity and superior training in the diagnosis of disease objects to school nurses being trained to recognize the early signs of infection, and excluding children from school on these signs, is an impediment to progress. He only impedes though, for his objection makes more urgent the necessity for the thing to which he objects and assures its accomplishment.

Communicability should be used to determine the duration of isolation.

Strict attention paid to carriers.

Common colds excluded from school.

Differentiate between established facts and opinions or hypotheses.

2nd. These facts should be taught to teachers,

nurses, school children, and the public through the instrumentality of the school.

3d. Put into effect a policy of rigid exclusion from school children who are not entirely well, no matter how mild the symptoms.

The total attendance for the year will doubtless be materially increased. Absence will be made up of a large number of short duration. There will be less, by a good deal, of the long absences due to quarantine.

4th. Children should be excluded for running noses, watery eyes, headaches, swellings on the face, rashes, peeling, sore throats, coughs, fevers, and other indications of illness, even though there be no temperature above the normal.

5th. Organize a health department reserve force. Teachers trained in the use of the microscope and familiar with the most common pathogenic forms of bacteria.

Methods which have been classified as negative to be employed in such a campaign are:

1st. Avoid a discussion of specific symptoms of specific diseases. Definite diagnosis is of no account.

2d. Do not emphasize, at least do not overemphasize the matter of physical fitness as a factor in preventing infection.

3d. Do not place an emphasis upon filth as a causative agent out of proportion to its significance. Defective plumbing does not bring on diphtheria, nor is it necessary to have a dirty head to attract pediculi.

There are a number of means by which these facts can be brought to the school and public in general. Some of these are:

1st. Public lectures.

It is not enough that health lectures always be made by men who make a busines of entertaining the public. These lecturers, necessarily talk in generalities. Such talks have a prominent place in advancing public health but talks of a more technical nature are required in order to give the detail which is necessary if any adequate organization is to be obtained. The public lectures therefore should be given by two different types of men, those who stimulate the people to an interest in disease prevention, and those who instruct in the technique of disease prevention.

2d. A definite health program, particularly for teachers.

3d. Well timed newspaper publicity.

4th. Check and announce morbidity by school districts.

The great difficulty with health work has been that there has been no machinery set up in local communities to carry out the technique of disease prevention. The schools have long been recognized as sources of great danger to the children who attend and to others in the community. Health programs for schools have all been on paper. The paper organization accomplishes nothing. Occasional lectures to school children and the public in general telling them how much is known concerning the prevention of the ordinary communicable diseases is almost worthless. This has been done for years and still the diseases continue to occur with unreduced frequency. Such lectures leave the community without leadership to accomplish all the good things which have been said can be accomplished. To actually prevent diseases such lectures must be followed up by organization for the purpose of carrying out certain definite plans aimed at the prevention of communicable diseases. And contrary to the belief of some this organization does not require a highly trained public health expert in order to obtain results. School teachers and nurses with a little training can put into practice in the schools measures which will greatly reduce the morbidity records of the school.

The first step in safety education in the schools is the making of the schools themselves safe. Just as the worker in industry should be surrounded by every safeguard on the assumption that he has a right to as many fingers when he leaves the factory as when he went in, so have the children a right to come back from school at night as well and as free from infection as they were when they left their homes in the morning.

PUBLIC HEALTH NEWS ITEMS.

A tuberculous employe of a creamery who comes in contact with the food products should be withdrawn from such employment.

No special form of vaccination certificate is required. A mere statement over the signature of the physician who makes the vaccination is sufficient.

State law now authorizes counties to make appropriations for dental clinics for schools. So far as is known, Lincoln county is the only county to make such provision.

From May to October, according to State law, the disposition of dead animals must be by burning, burial or other sanitary disposal, whether they be on private property or otherwise. Disposal by throwing carcasses into streams is forbidden.

Under state rules a disinterred body must be enclosed in a metal or metal-lined casket or rough box, unless it is transported by private conveyance.

In the case of an illegitimate birth, with marriage of the parents soon to be solemnized, unless the father acknowledges the parentage in a written statement, the attending physician should not enter the name of the father on the birth record in the space for that purpose. The mere statement of the mother in the absence of court action or public acknowledgment of the supposed father should not be accepted as proof.

When an animal is slaughtered for tuberculosis, no part of the carcass should be used for food.

A public funeral in the case of death from erysipelas is not prohibited. Careful preparation of the body will prevent danger.

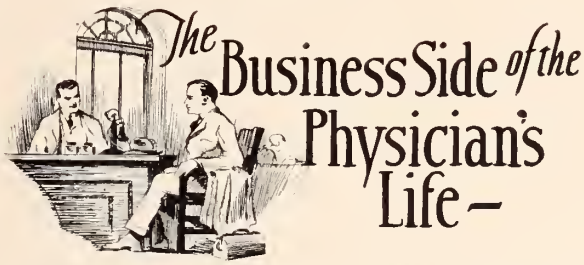
There is no law or regulation which prohibits the keeping of livestock within municipal limits. This is left to local regulation.

Where a physician was not in attendance, a health officer is authorized to enter a statement of the cause of death on the death certificate from the best information obtainable.

Rabies has been rare in Wisconsin in recent years. In 1921 the state laboratory furnished only a half dozen treatments therefor.

The law enacted by the 1921 legislature providing for the licensing of all funeral directors, undertakers and embalmers was declared unconstitutional by the supreme court. The court held that since embalming is not compulsory and since it is not universally practiced, it is not necessary to require that every undertaker or funeral director be skilled and licensed as an embalmer. The court declared that the enactment of this law would add nothing to public health, safety, convenience, comfort or morals. The old law providing for the licensing of all persons who do embalming by either arterial or cavity injection still holds. This law does not require persons who conduct funerals or engage in the undertaking business to be licensed.

In the March issue of the JOURNAL a news item announced the resignation of Miss Evelyn Smith as County Nurse for Sheboygan County and the appointment of Miss Gertrude Lohman to succeed her. This item should have read that Miss Gertrude Lohman has resigned and Miss Smith has been appointed to succeed Miss Lohman. Miss Evelyn Smith is now County Nurse for Sheboygan County.



This is the second of two articles written for the WISCONSIN MEDICAL JOURNAL by a Milwaukee banker of long experience discussing financial subjects with particular relation to the physician. This page will be a regular feature of the JOURNAL. Men and women in business and the professions who are qualified to discuss financial subjects authoritatively will be invited to write for this department.

In my article in last month's WISCONSIN MEDICAL JOURNAL I suggested that, as the first step toward a sound working knowledge of finance, every person should learn to distinguish between an investment and a speculation.

By that I mean, of course, more than a dictionary knowledge of the words. I am not particularly concerned whether a man knows the Latin or Greek derivations of the words or not, so long as he has planted in his head a good com-

mon sense ability to analyze a proposition that is interesting him and decide whether it is a well protected investment or merely a speculation. Given that knowledge, it is up to him to decide whether he should devote any part of his surplus income in speculative ventures. Some money must go into speculation, for without the aid of money willing to take a chance, none of the great inventions that have added to the world's well being and happiness would have been perfected. Not every man, however, can afford to take the speculative chance. In fact, the number is very small, and doctors, being of a profession dependent for its income on individual effort, are, with the possible exception of a few earning unusually large incomes, well advised to avoid taking the long chance.

The first requisite for the man who would have this ability to classify a proposition correctly is a willingness to *get the facts.* I have been a banker for many years, yet I never cease to wonder at the child-like manner in which people blindly pour their money into so-called investments.

The plain fact of the matter is that not one man in ten makes any real investigation of the thing he puts his money into, and this applies to physicians as well as other folks—perhaps even more so. You see, I've sat in at many post mortems of estates and watched the contents of safety deposit boxes come up for air amid the expectant gaze of the assembled heirs. How beautiful many of those ornate "securities" were—and how utterly worthless!

I have said that this failing on the part of many men to get the facts before investing their money, applies to physicians with perhaps special force. Certainly there is a very general opinion that passes current for fact that the physician is an easy mark, that you can sell him anything in the way of an investment no matter how fantastic. Is this true? A young man of my acquaintance who is the head of a small business that shows good prospects tells me that on two occasions during the past year physicians who were only casual acquaintances have come to him with the suggestion: "If at any time you want to get some extra money in your business, I wish you would let me know about it. I'd like to come in on it." One of these physicians offered to place his entire life's savings in the concern. Neither of them knew the slightest thing about the condition of the business. They had simply heard that "it was getting along well."

There are too many good things to put your money into to take a chance on losing it in some uninvestigated project. It is always possible to obtain definite data on any proposition, or if it isn't, that proposition is a good thing to shy away from. Perhaps the venture is purely speculative—a dream that may come true. All right, know that in advance and be guided accordingly. If you go into it, do so with the knowledge that you may—probably will—lose your money, but that you may win big. Know what the money that is being raised is going to be used for. Know the men back of the project, their reputation for honesty and ability, their skill as business men. In other words—Get the Facts.

The same reasoning is just as applicable to investment securities, stocks of rated companies, etc. Conditions in business are changing constantly. The company that is sound today may be under the sheriff's hammer next year; or, again, the little business of today may be the big business of tomorrow.

Every business, large or small, is only as good as the men who guide it. Know your men. Not personally necessarily, but at least by unbiased reputation. Know something about the field the business is working in, and the position of your particular firm in the industry. Find out enough about the business to determine whether it is coming or going, whether it is up on its toes striving for position, or dying of dry rot and looking for extra money simply to postpone its death rattle.

All of these points are matters that you can obtain readily from unbiased sources. Your bank, trust company or bond house can and will obtain information for you about any concern in which you are interested, and you can depend on this opinion being fair and honest. Every high grade bond house or trust company welcomes this opportunity to be of service to its clients and renders this service without obligation. Some of them have special departments for handling the problems of the professional man or woman recognizing that their affairs require specialized handling.

It is my opinion that physicians, as a class, are soundly advised to concentrate their surplus earnings in investment securities of the highest type, where security of principal takes precedence over attractive interest return. The physician earns his

living by his own effort. It may be ever so large an income—still it is limited to what he himself can do. It flourishes during his virile productive years; it slackens as the pace begins to tell on him; it stops when he stops. No man in that position can justify speculative investments as can the man whose income is derived from the labor of many men, as is that of the manufacturer and large merchant.

But investment in sound, well established securities has its compensation. It lacks the thrill of the big winning speculation. It brings no gripping oil strike with its flood of gold to the fortunate investors, but it brings no heart aches. It leaves no widows and children destitute. It buries no hopes. And in its way it's a pretty good little speculator in its own right. Money invested at 6% and left to grow will double itself in about twelve years. I'd like to take a list of any dozen of the speculative ventures that confounded the public's good sense a dozen years ago, and find out how many of them had doubled their investment today.

Easy money? As the old farmer said when he saw the camel, "There ain't no sech animal."

NOCTURNAL (PAROXYSMAL) DYSPNEA.

That the paroxysms of nocturnal dyspnea are cardiovascular in origin Roy D. Adams, Washington, D. C., (*Journal A. M. A.*, June 17, 1922), is evidenced by: (1) the absence of lesions of the kidney and other organs; (2) physical signs of organic damage to the heart; (3) the supervention of broken compensation, and (4) postmortem findings. Adams has had fifteen patients under more or less close observation for at least one year. Classified clinically, four had myocarditis, six aortic diseases, and five arteriosclesrosis. The majority of all cases of nocturnal dyspnea are associated with these three diseases. In this series, all patients had nocturnal dyspnea. Paroxysms during the day were very exceptional. None had kidney disease of any consequence, as shown by urinalysis and the phenolphthalein test. All patients were ambulatory, and none had given up or changed his previous occupation. During a period of apnea or immediately preceding one, the patient would fall asleep. The apneic period terminated in hypepnea of the Cheyne-Stokes type. During the latter consciousness returned with a most unpleasant and often alarming sense of air hunger. Examination during an attack gave no evidence of cardiac dilatation, and little change in rate. If the threshold of sleep was successfully passed, three or four hours of unbroken rest almost always ensued. The paroxysm occurs before deep slumber has been attained or after light sleep has supervened, and only occasionally in deep slumber. If we know something of the physiology of sleep, a rational explanation might be offered. Unfortunately, we do not. In a review of the information and theories on the subject by Haberman, the conclusion drawn is that: "From the evidence so far accrued, we may at least assume one can sleep whether 'product fatigued' or not, and whether there be anemia or plethora in the brain and whether the plethora be arterial or venous. One may sleep with lowered or heightened intracranial pressure, though the latter is (pathologically) especially sleep tending. Sleep does not depend upon hyometabolism or hypermetabolism, though the former (in the sense of lessened energy denotation) no doubt more often obtains; and however endocrine dysfunction might induce or hinder sleep, regular sleep is nevertheless present in all types of endocrinopathy. There is no sleep center nor is sleep occasioned through subcortical block." Unfortunately, Haberman proceeds to offer a theory of his own, in many respects quite as unsatisfying as those he refutes. Whatever the mechanism, it is apparent that the respiratory center is relatively unstable in "threshold slumber." This is shown by the great frequency of Cheyne-Stokes breathing during light sleep of normal individuals, by the prevalency of dreams during light slumber, and by the tendency of paroxysmal dyspnea to manifest itself at this time. It is as though during threshold slumber a conscious and a sleep control of respiration were tossing responsibility from one to the other. The pathology of nocturnal dyspnea is the pathology of myocarditis, of aortic disease, of arteriosclerosis and, less frequently, of other forms of heart disorder. Following the subsequent history of cases under observation for several years, Adams has become impressed by the frequent development of cerebral arteriosclerosis. The conclusion that nocturnal dyspnea is an early manifestation of cerebral arterial disturbance in the bulbar region and incidentally in the respiratory center seem reasonable. In the treatment of nocturnal dyspnea dependent on a diseased cardiovascular system, general management of the patient and intelligent care directed toward the specific cause are as important as in the usual cardiopathies.

BASAL METABOLIC RATE.

J. Marion Read, San Francisco (*Journal A. M. A.*, June 17, 1922), asserts that the pulse pressure and pulse rate vary in the same direction as the basal metabolic rate. Most individuals respond to variations in the metabolic rate with proportionate changes in both pulse rate and pulse pressure; a few show disproportionate changes in the one with little or no change in the other. A combination of the two gives a better measure of the circulatory system response to variations in metabolic rate than either one alone. Basal pulse rate and pulse pressure combined can be used clinically as a guide to ascertain the direction and estimate roughly the amount of change in the basal metabolic rates of patients under treatment for hypothyroidism and hyperthyroidism.

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Waupaca	E. H. Jones, Weyauwega	A. M. Christofferson, Waupaca
Winnebago	F. G. Connell, Oshkosh	T. D. Smith, Neenah
Wood	D. Waters, Grand Rapids	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

CRAWFORD COUNTY MEDICAL.

A meeting of the Crawford County Medical Society was held at Prairie Du Chien, June 22. Dinner was served at 7:00, after which the following program was given:

"The Shepard-Towner Bill, relating to Maternity and Child Welfare"—Miss Sophia Paulus, county nurse.

"Points of Interest in Diagnosis of Diseases of Children"—Dr. W. E. Bannen of La Crosse.

"Diagnosis, Symptomatology and Classification of Goiters"—Dr. R. H. Jackson, Madison (illustrated by lantern slides).

DANE COUNTY.

Dane County Medical Society voted to close offices Saturday afternoons at the meeting held at Stoughton, June 13.

Following a chicken dinner at the Hotel Kegonsa, Drs. Duer, R. T. Cooksey, and W. T. Lindsay gave interesting reports of cases; Dr. H. P. Greeley gave a paper on the A. M. A. convention; and Dr. Robert Van Valzah of the university clinic gave a talk on "Rheumatic Fever."

FOX RIVER VALLEY.

Officers elected to serve during the coming year at the annual meeting of the Fox River Valley Medical Society held June 2, were: President, Dr. Robert Walker, Menominee, Mich.; first vice-president, Dr. C. J. Combs, Oshkosh; second vice-president, Dr. H. Hendrickson, Green Bay; secretary-treasurer, Dr. Robert Cowles, Green Bay.

At the afternoon session, Dr. Hugh Cabot, Dean of the Medical School at the University of Michigan, and Dr. Alfred Scott Warthin, Professor of Pathology at the same institution, gave an interesting and instructive talk on "Actinomycosis."

Dr. C. R. Bardeen of the University of Wisconsin gave a pleasing and unusual paper on the relation of physical build to disease and the types of physique which are most apt to develop certain diseased conditions.

After a banquet served at 6:30 o'clock, the meeting was continued, Dr. George Fahr, Professor of Medicine at the University of Wisconsin, delivering a paper on "Hypertension." The three principal speakers were honored by election to the society as honorary members.

GRANT COUNTY.

The Grant County Medical Society held a meeting in Boscobel, June 2, the occasion being in the nature of an outing at the river with a sumptuous fish dinner as an attractive feature. Mrs. Mary P. Morgan, Madison, Director of the Bureau of Child Welfare and Public Health Nursing, spoke on the Shepard-Towner Bill; Dr. G. W. Heinka, Deputy State Health Officer of Madison spoke on "Iodine in the Prevention of Goiter" and "The Schick Test;" Dr. F. F. Bowman on "Public Health and the Physician," and Dr. M. W. Randall on "Hypothyroidism."

LAFAYETTE COUNTY.

At the annual meeting of the Lafayette County Medical Society, June 27, the following officers were elected for the ensuing year: president, Dr. H. B. Moe, Blanchardville; secretary-treasurer, Dr. P. W. Leitzell, Benton.

MARINETTE COUNTY.

The Marinette County Medical association held an important meeting at the Boren cottage, Pine Beach, Marinette, June 28. The guest of honor was Dr. A. J. Patek of Mt. Sinai hospital, Milwaukee, who talked on the University of Wisconsin Extension service. The address which was very interesting and instructive was well received by the twin city physicians of whom there were twenty-two present.

Following the clinic and talk refreshments were served by Drs. Clarence and J. W. Boren.

MILWAUKEE NEURO-PSYCHIATRIC SOCIETY.

The Neuro-Psychiatric Society held its annual meeting on June 22, in the Milwaukee Athletic Club. Dinner was served and officers elected, after which Dr. Lorenz, Director of the Wisconsin Psychiatric Institute talked on "Treatment of Central Nervous Syphilis By New Remedies."

RACINE COUNTY.

At a meeting of the Racine County Medical Society, June 22, at Brown's Lake, Burlington, Dr. H. P. Greeley of Madison gave a talk on "Hay Fever and Asthma" and the best way of handling these cases.

Dr. Sheldon, of Madison, 80 years of age, was present, and spoke on old-time practice and associations of older medical men in the vicinity.

District Attorney Beck gave a very interesting and instructive talk on medico legal questions. He answered many questions in which physicians are interested. Dinner was served at the Hotel Racine.

ROCK COUNTY.

More than seventy-five physicians and dentists attended a meeting of the Rock County Medical Society at Mercy Hospital, Janesville, at which Dr. B. V. Brown, Milwaukee, gave an address. Dr. Brown, a noted specialist in oral surgery, brought out the importance of plastic and oral surgery to general practitioning. The Rock County Dental society attended as guests of the medical society.

WALWORTH COUNTY.

The Walworth County Medical Society met in the Y. M. C. A. building, Lake Geneva, on Wednesday aft-

ernoon, May 10, for the second number of their Postgraduate Course in Obstetrics. Dr. Carl Harper of the University of Wisconsin, gave the lectures on the films and slides both afternoon and evening.

The society had as their guests, members of the Rock and McHenry county societies and many of the wives and public nurses were present. Dinner was served in the Y. M. C. A. dining room and the forty-four people present were unanimous in their opinion that that number fully equaled the ones which preceded and followed it.

The society made arrangements to have the popular lecture and films, "The Gift of Life" shown in every town in the county during the last week in June.

WAUKESHA COUNTY.

Waukesha County Medical Society held a meeting at Menomonee Falls, June 7.

NEWS ITEMS AND PERSONALS

The many friends of Dr. Daniel Hopkinson, Milwaukee pathologist, will be pleased to know that he has completely recovered from his recent operation and has resumed work. "Dan," as he is familiarly known throughout the state, is spending most of his time at his summer home on Muskego lake, but expects to be back in his laboratory and attending his duties as secretary of the Wisconsin Surgical Association and of the Milwaukee County Medical Society in a few more weeks. Dr. Hopkinson had been suffering for a considerable time with an infection in his right leg. Conservative treatment failing to give relief, he finally turned to surgery and the offending member was amputated above the knee on June 7th, at Trinity hospital, Milwaukee. The operation was performed by Dr. W. C. F. Witte, assisted by Drs. Joseph H. Carroll and Dexter H. Witte.

Dr. H. C. Erickson of Marinette has opened an office at Viroqua.

Dr. and Mrs. A. O. Shaw of Ashland have returned from a trip to Australia, New Zealand and the South Sea Islands.

During the absence of Dr. C. A. Baer, who is taking a two months' study course in Paris, Dr. A. A. Evans is acting as chief of staff at the Milwaukee Children's hospital.

A $500,000 hospital will be built on the South side, Milwaukee, on the southwest corner of Eleventh and National avenues, it was decided at a meeting of the South Division Civic association. The committee in charge made its report and will immediately begin work relative to floating a $100,000 subscription loan to purchase the site. It is planned to form a corporation and sell $400,000 stock at shares of $100, to build the hospital. South side merchants are backing the movement.

Doctors Karl Doege, senior and junior, of the Marshfield Clinic are leaving for Europe for a year's trip. This will be a wedding trip for Dr. Karl Doege, Jr., who is to be married. Dr. Karl Doege, Sr., and his wife, and their son Paul, will accompany Dr. and Mrs. Doege, Jr., on the trip.

The Trinity hospital, Ninth and Wells streets, Milwaukee, will be closed Aug. 31, Dr. Henry L. Banzhaf, manager of the institution announced. A letter advising this action has been sent by the board of trustees of Marquette university to the hospital board. Failure to obtain a renewal of the lease was partially responsible for this action. The ground occupied by the hospital will be used for an addition to the public library and museum building. Marquette will erect a new building, according to Father Noonan, president of Marquette, although at present plans are indefinite.

Dr. Partridge who has been city health officer at Wausau and had charge of the state laboratory in that city for the past three years has resigned, effective July 1. Dr. and Mrs. Partridge are leaving for Milwaukee where he will be engaged in laboratory work. No announcement has been made as to his successor at Wausau and the matter of discontinuing the state laboratory there is being considered.

Within a short time the city of Racine will have a full-time laboratory man connected with its health department. Dr. Johnston, the health commissioner, being authorized by the board to employ such a man.

Dr. A. A. Beck of Coloma has bought the office of Dr. E. M. Wilson of Wautoma. Dr. Wilson will locate in Fort Atkinson.

Miss Maud L. Howells, who succeeds Miss Gertrude McKee as superintendent of the Milwaukee Children's hospital, comes from Lincoln, Nebraska, where she has been assistant superintendent of the Drs. Everetts' General hospital for several years. Miss McKee who has been superintendent of the Milwaukee Children's hospital for ten years is planning a long vacation.

Dr. W. A. Rauch, formerly of Manitowoc, has been appointed resident physician of the South View hospital at Milwaukee. Dr. Rauch is a graduate of Marquette college.

Dr. Wm. C. Felton has been elected city health commissioner of Appleton, to succeed Dr. H. G. Ellsworth.

Dr. and Mrs. H. E. Twohig and Dr. and Mrs. S. E. Gavin of Fond du Lac, have left on an automobile trip to include Washington, New York and other points of interest in the East, returning by way of Buffalo and Detroit.

Seven hundred attended the June fete on the lawn of Mercy hospital, Janesville, June 15. A concert and music for dancing was given in pavilions erected near the nurses' home. The lawn was completely lighted

with small electric lights. The Chamber of Commerce quartet sang several selections and a fortune telling booth proved popular. Refreshments were served.

The Wisconsin state board of health will establish a maternity and infant health center with physician and nurse to manage its affairs, in every county that provides necessary rooms and equipment, under plans announced, for administration of the Sheppard-Towner act which has taken effect in this state. Under this legislation Wisconsin is to receive $10,938 for the year ending June 30, and $27,751 for the year ending June 30, 1923. In the health centers the board will give complete physical examinations for children under school age, and for expectant mothers. Establishment of Little Mothers' classes, teaching girls how to care for babies, will be promoted, together with illustrated talks and moving pictures of an instructive nature. It will not be possible to give medical and nursing care to mothers at the time of confinement, except that if any one county appropriates a sum up to $3,000 the state will meet this sum and local physicians will probably be employed to do the work. Personnel to carry out provisions of the act will consist of one physician to visit health centers, six or eight part time physicians in various localities, and ten public health nurses to organize the health centers and do follow-up work in each county.

Mrs. Della Ringling of Baraboo, formally turned the keys of her home over to the order of the Sisters of St. Mary, the place to be hereafter known as St. Mary's-Ringling Memorial hospital.

Contracts have been let for a $200,000 addition to Mercy hospital in Oshkosh. Only those additions which are considered positively necessary at this time are being made and a campaign for more building funds will be conducted by the Sisters of the Sorrowful Mother later. Two new structures to the west of the hospital and a basement enlargement to the north will be made.

Dr. Thomas Hall Shastid, of Superior, Wis., received, at the recent commencement of the University of Wisconsin, the honorary degree of Doctor of Science.

The fifteenth annual meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical association will be held at Minot, North Dakota, Sept. 25-26.

Dr. A. Egdahl of Hartford, has accepted an appointment as director of public health of the state of North Dakota.

That a jinx rode with the thief who stole the big Marmon touring car owned by Dr. F. Gregory Connell, well known Oshkosh surgeon, was evidenced by the fact that the machine was recovered at Neenah less than two hours later, after it had crashed into a Soo line flag shanty. The Marmon was driven back to Oshkosh under its own power, having been but slightly damaged. The thief escaped.

Dr. O. P. Schnetzky of Princeton was fined $400 and costs of $200 in circuit court, for illegal transportation and sale of liquor.

DEATHS.

Dr. C. W. Wilkowski, well known physician of Chippewa Falls was drowned June 18, in Round Lake, while on a fishing trip. Dr. Wilkowski was a graduate of the University of Minnesota.

Dr. R. L. Williams, superintendent of the State Tuberculosis sanatorium at Wales, was killed in a street car accident in Cleveland, June 25. Dr. Williams was a graduate of the Jefferson Medical College and, after coming to Milwaukee, was a staff physician at Emergency hospital and also on the staff of the Children's Free hospital.

Dr. Charles N. Abbott died at a Madison sanitarium, June 1. Dr. Abbott had been a resident of Chippewa Falls for a number of years. He was a graduate of Northwestern Medical School.

Dr. W. H. Park of Glenwood City, died at his home in that city June 27.

Dr. A. E. White died at Baggs, Wyoming, June 22. Dr. White for a number of years practiced in Black River Falls. He was a graduate of the University of Minnesota.

Dr. Oliver G. Winters, chief medical examiner of the Brotherhood of American Yeomen, died at Des Moines, Iowa, June 4.

MARRIAGES.

Miss Marie Bunch, Milwaukee, to Dr. E. Felter, Plymouth, June 15.

Miss Norma Prange, Sheboygan, to Dr. Otto T. Gunther, Sheboygan, June 17.

Miss Ruth Lefebvre, Chilton, to Dr. Joseph Wm. Frawley, Appleton, June 10.

Miss Lillian Hanson, College Place, Wash., to Dr. G. F. Hilton, Wenatchee, Wash., May 25.

HEALTH EDUCATION AND STANDARDS OF GROWTH.

The American people are peculiarly susceptible to the driving influence of cleverly worded slogans. When we are told, day after day, to "swat the fly," our surplus energies promptly find an outlet in the pursuit of the pesky insect. And similarly, when the nation is admonished that "fat is fuel for fighters" and that "food will win the war," there is no delay in initiating a program to secure the desired ends. In recent years the more intelligent members of many communities have been reminded through a variety of semiofficial or "expert" utterances that "public health is purchasable." When the propaganda to secure greater national vitality and personal welfare is coupled with the dictum to "save the children," the appeal is always certain to awaken widespread enthusiasm and willingness to serve

a worthy cause. Thus the health education movement has arisen and the problems of the nutrition and growth of American schoolchildren have been given unusual prominence. The organization of a powerful, representative National Child Welfare Council to act as a sort of clearing house for many of the newer organizations devoted to child betterment testifies to the interest in the project and the determination of its promoters.

At the outset of all the various undertakings to explore the possibilities of improving the physical development among children of school age, the difficulty of adopting a suitable norm or standard of adequate nutrition has inevitably arisen. Emerson[1] has recently pointed out that the tables in general use in the past have been taken as the basis on which to compute normal weight. But the attempt to apply this weight for age standard leads to practical difficulties at once because of the great variation among children of the same age. It also tends to discourage many who find the average weight for their age far beyond their reach. The basis of height for age is even more perplexing because of the large number of children who are above the average height for their years. Consequently, Emerson and many others have adopter the basis of weight for height as an accurate measure of the condition of undernourished children. This decision is supposed to rest on a physiologic principle that "a body of a certain height requires certain weight to sustain it, and the most significant test of a child's physical condition is the relation between his weight and his height."

Whether such somewhat arbitrary standards of judgment are of widespread application, and what their limitations may be under the varied exigencies of either national life or personal circumstances, remains to be seen. One of the most serious pioneer efforts to carry the "nutrition class" program to its logical conclusion in the public schools of New York in 1919-1920 has led to the discovery of new problems. These are frankly admitted in a report recently issued by the bureau of educational experiments.[2] The investigators, Hunt, Johnson and Lincoln, admitting that the detailed study of growth in height and weight has been clarifying, assert that the need of a considerable amount of research in respect to standards of growth, and in respect to causal factors, has been made apparent.

The possible necessity of making allowances for unusual tendencies of certain racial stocks to promote seemingly large variations in stature has already come clearly into prominence. An illustration of other possibilities for misinterpretation is afforded by numerous recent studies of the condition of European children suffering from the growth-retarding influences of unfavorable food conditions in the Central Empires during and after the war. Here, unfortunately, experiments are being conducted by Nature on an enormous scale, and we should profit by the lessons of their untoward results. Recent measurements of large numbers of children of school age who have been realimented under institutional conditions in Berlin[3] have shown that satisfactory gains in weight after prolonged undernutrition are far more easily secured than are increments of stature represented by height measurements. The failure to attain expected increases in height at a period when restitution seemed to be proceeding rapidly in the body has not been a universal experience in the war stricken area, for Bloch's[4] and Abderhalden's[5] observations have brought more favorable reports. Nevertheless, the warning is clear that gain and symmetrical growth are by no means synonymous terms. The evaluation of proper development in adolescent groups of persons evidently calls for consideration of many factors and for much further research. Enthusiasm for betterment must not be allowed to dim our perception of the present limitations of our knowledge of growth.—*Jour. A. M. A.*, June 17, 1922.

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[1]Emerson, W. R. P.: Nutrition and Growth in Children. New York, D. Appleton & Co., 1922.

[2]Health Education and the Nutrition Class, A Report of the Bureau of Education Experiments, New York, E. P. Dutton & Co., 1921.

[3]Goldstein, F.: Klinische Beobachtungen über Gewichts- und Längenwachstum unterernährter schulpflichtiger Kinder bei Wiederauffütterung, Ztschr. f. Kinderh. 32:178 (April 12) 1922.

[4]Bloch, Hedwig: München. med. Wchnschr., 1920, No. 37.

[5]Abderhalden, E.: München. med. Wchnschr., 1920, No. 50.

CARBON TETRACHLORID IN TREATMENT OF THE ANTIVIVISECTION INITIATIVE IN COLORADO.

Again efforts are being made to stop research directed toward the relief of pain and disease and the prolongation of life. By use of the initiative and referendum, the antivivisectionists of Colorado have filed a bill, to be voted on at the November election, which prohibits experimental operations on animals except to relieve or cure the animals themselves. It is the same sort of measure that was presented for popular vote in California in 1920. If it should be adopted it would abolish all experimental study of problems in general biology and in general veterinary medicine; it would discontinue modern diagnostic methods—no Wassermann tests, no diphtheria tests for virulence, no inoculations to determine the presence of tuberculosis would be permitted. The preparation of vaccines and curative serums, and the standardization of drugs by animal tests could not be carried out. The law would thus render useless to a large degree the laboratories in the state and city boards of health, in the hospitals, in the medical school and in the Bureau of Animal Industry. It would seriously interfere with the live-stock interests, for it would not only check experiments for the cure of animal disease but would refuse to threatened herds and flocks the protection obtainable from well-tried serums and vaccines. Such legislation would imperil every man, woman and child in Colorado, and the domestic animals as well.

There is no reasonable call for such legislation. Ancient prejudices, misinformation and gross perversion of the facts have been used to mislead people regarding the nature and the beneficent results of animal experimentation. In every medical school of the United

States, in veterinary schools, in state health board laboratories, humane rules governing the treatment of experimental animals have been adopted and are being enforced. The "open door" policy, admitting freely to the laboratories the officers of humane societies, has now been adopted in the medical institutions throughout the land. There are drastic laws in the statutes against cruelty to animals. If, as the antivivisectionists insist, cruelties are being practiced in the laboratories, there is no excuse for their negligence in permitting these cruelties to continue and the perpetrators to go unpunished. Until the existing law is proved inadequate, no new law should be enacted.

The present effort of the antivivisectionists subjects the people of Colorado to an intelligence test on a large scale. When a similar test was made in California two years ago, the measure prohibiting animal experimentation was defeated by a quarter of a million votes. Everywhere, in the national Congress, in Massachusetts, in New York, in Pennsylvania and elsewhere, the antivivisectionists have failed to secure restrictive legislation. They should not have their first success in Colorado.

When people are properly informed regarding the methods of animal experimentation, the precautions taken to avoid unnecessary pain, the character of the investigators, and the great benefits that have come to man, and to animals as well, from medical research, there is no question that a large majority will not only tolerate, but will promote the activities of the laboratory workers. It is of prime importance that well-informed physicians recognize the essential need of freedom of inquiry about the problems of life and death, and that they give their time generously to explain how the proposed law would endanger the welfare of Colorado.

The responsibility does not rest, however, solely on physicians. The fight against preventable disease and premature death should be one of the first interests of all public spirited citizens. They should recognize that in this fight the antivivisectionists are slackers, doing nothing themselves to secure better health and longer life for their fellows, and trying their best to prevent others from using the ways which have proved most effective. These ways are now used throughout the civilized world. The intelligent voters of Colorado must not undermine and destroy their own defenses.—*Jour. A. M. A.*, June 17, 1922.

OBSERVATIONS ON THE USE OF MILK INJECTIONS IN THE TREATMENT OF CHRONIC ARTHRITIS.

Effects of the injection of milk intramuscularly were studied by Joseph Eidelsberg, New York (*Journal A. M. A.*, June 10, 1922), in fifty cases of arthritis: (1) No case was of less than six months' duration, or longer than five years; (2) the deformity, swellings and interference with function were but slight or moderate, and (3) no other treatment was attempted during the period of observation. The milk was prepared by heating in a closed vessel at 100 C. (in boiling water) for twenty minutes. By excluding the air in the container, no film of caseinogen formed, and to further insure ease of administration, the milk was filtered (although this was unnecessary). The dose administered was from 4 to 6 c.c. for the first injection, from 5 to 8 c.c. for the second, and from 7 to 10 c.c. for the third, fourth or fifth injection. Usually two or three injections were administered to a patient, and if of no value, the treatment was discontinued after the second or third injection. The interval between injections varied from three to seven days, depending on the reaction. The site of administration was deep into the buttock, prepared in the usual manner. Following about half of the injections, especially the smaller ones, little or no reaction occurred. When the reaction did occur, it would begin to manifest itself usually in from six to twelve hours. It consisted of chills, fever, headache, depression, nausea and vomiting. Following the disappearance of the reaction in practically all cases, there appeared a certain euphoria and feeling of well-being, which did not occur with any other method of treatment. It was short-lived, however. In eighteen patients no improvement seemed to appear. Of the remaining thirty-two, five seemed to clear up entirely, leaving no trace of the disease, and the remainder (twenty-seven) were more or less improved, in swelling and pain, increase in function, and general feeling of well-being. The multiplicity of joints involved apparently affected the improvement slightly. The degree of improvement was based on the decrease excepting when the extent of involvement was marked.

PROPOSED HIGH TARIFF ON SCIENTIFIC INSTRUMENTS.

The Fordney Tariff Bill places an increased tariff on microscopic, optical and other scientific instruments and, according to newspaper reports as The Journal goes to press, the Senate, on motion of its Finance Committee, has refused requests by educational institutions that they be permitted to obtain scientific instruments and apparatus free of duty. In this regard, the proposed legislation is a complete reversal of the government's attitude toward educational institutions. The available funds for scientific instruments in such institutions are invariably inadequate in comparison with the great needs and possibilities of education and scientific research, which should not be hindered by undue taxation. Exemption of education from taxation has been the policy of previous tariff bills and it has proved satisfactory. It is to be hoped that the Senate may see its way clear to reconsider this particular point; failing that, that the situation may be corrected when the tariff bill comes to conference. To eliminate the exemption of educational institutions would be a serious blow to the cause of science and of scientific medicine in particular.—*Jour. A. M. A.*, June 17, 1922.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

The Medical Clinics of North America (Issued Serially, one number every other month), Volume V, Number VI, May, 1922. By Chicago Internists. Octavo of 308 pages and index to Volume V complete with 22 illustrations. Per clinic year (July, 1921, to May, 1922). Paper, $12.00. Cloth, $16.00, net. Philadelphia and London: W. B. Saunders Company.

Applied Psychology for Nurses. By Mary F. Porter, Highland Hospital, Asheville, N. C. 12mo of 172 pages Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $1.50, net.

The Writing of Medical Papers. By Maud H. Mellish, Editor of the Mayo Clinic Publications. 12mo. of 157 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $1.50, net.

An Introduction to Child Psychology. By Charles W. Waddle, Ph.D. Houghton-Mifflin Company, New York.

Mental Disease a Public Health Problem. By James V. May, M. D. Richard G. Badger. The Gorham Press, Boston.

Heredity and Environment in the Development of Man. By Edwin Grant Conklin. Princeton University Press, Princeton, 1922. Price, $2.50.

Human Efficiency and Levels of Intelligence. By Henry Herbert Goddard. Princeton University Press. Princeton. Price, $1.50.

How the Mind Cures. By George F. Butler, A. M., M. D., New York. Alfred A. Knopf, Publisher. Price, $2.50.

Juvenile Delinquency. By Henry Herbert Goddard. Dodd, Mead and Company, New York. 1921.

Instinct and the Unconscious. By W. H. R. Rivers, M. D. Second edition. The Macmillan Company, New York. 1922.

Applied Chemistry. By Fredus N. Peters, Ph.D. Illustrated. C. V. Mosby Company, 1922. Price, $3.50.

Symptoms of Visceral Disease, A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, M. D. Second edition; 86 illustrations; 10 colored plates. C. V. Mosby Company, St. Louis. 1922.

Transactions of the American Pediatric Society, 33d Session. Edited by Joseph Brennemann, M. D., 1921.

Psychoanalysis and the Drama. By Smith Ely Jelliffe, M. D., and Louise Brink, A. B. Nervous and Mental Disease Publishing Co., New York and Washington. 1922.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By George E. deSchweinitz, M. D., LL.D. Ninth edition, reset. Octavo of 832 pages with 415 text illustrations and 7 colored plates. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $10.00, net.

The Practice of Medicine. By A. A. Stevens, M. D. Octavo of 1,106 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.50, net.

American Medical Association Pamphlets. Four pamphlets of from 16 to 68 pages. Illustrated. 50 cents. A. M. A. Journal, 535 North Dearborn Street, Chicago.

The Principles of Physics and Biology, Radiation Therapy. By Bernard Kroenig, M. D., and Walter Friedrich, M. D., University of Freiburg im Breisgau. Only authorized edition by Henry Schmitz, M. D. Rebman Company, New York.

Radium Therapy. By Frank Edward Simpson, A. B., M. D. With 166 original engravings. St. Louis. C. V. Mosby Company. 1922.

1921 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1318 pages. 392 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $12.00 net.

A Text Book of Practical Therapeutics. By Hobart Amory Hare, M. D., L. L. B., B. Sc. 18th edition. Philadelphia and New York: Lea and Febiger, 1922. Price, $6.50.

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph. B., M. D. Illustrated with 136 engravings and 8 plates. Philadelphia and New York: Lea and Febiger, 1922. Price $5.50.

Glands, Health and Disease. By Benjamin Harrow, Ph. D., New York. E. P. Dutton Company, 1922. Price $2.50.

Optimistic Medicine or the Early Treatment of Simple Problems Rather Than the Late Treatment of Serious Problems. By Arthur C. Crandall. Philadelphia: F. A. Davis Company, 1921. Price $5.50.

Hayfever and Asthma, Care, Prevention and Treatment. By William Scheppegrell, A. M., M. D. Illustrated. 107 engraved and 1 colored plate. Philadelphia and New York: Lea and Febiger, 1922. Price $2.75.

The Law of Vital Transfusion and the Phenomenon of Consciousness. By Charles J. Reed. Occidental Publishing Company, San Francisco. Calif.

Bi-Sexual Love. By William Stekel (Vienna). Authorized translation by James S. Van Tressler, M. D. Boston. Richard G. Badger: The Gorman Press, 1922.

The Place of Version in Obstetrics. By Irving W. Potter, M. D., F. A. C. S. C. V. Mosby Company, St. Louis. 1922. Price $5.00.

Practical Infant Feeding. By Lewis Webb Hill, M. D., Junior Assistant Physician to the Children's Hospital, Boston; Assistant in Pediatrics, Harvard Medical School. Octavo of 483 pages, illustrated. Philadelphia and London. W. B. Saunders Company, 1922. Cloth $5.00 net.

A Psychoanalytic Study of Psychoses with Endocrinoses. By Dudley Ward Fay, Ph. D. Nervous and Mental Disease Monograph Series No. 33, New York and Washington, 1922. 122 pages.

Management of the Sick Infant. By Langley Porter, M. D., and Will E. Carter, M. D., both of the University of California Medical School. Illustrated. C. V. Mosby Co., St. Louis, 1922.. 654 pages. Price $7.50.

BOOK REVIEWS

Applied Psychology for Nurses. By Mary F. Porter, Highland Hospital, Asheville, N. C. 12mo of 172 pages. Philadelphia and London: W. B. Saunders Company. 1921. Cloth, $1.50 net.

This is a most excellent little work, giving the essentials of psychology as it relates to the medical field, and written especially for those engaged in nursing. It is to be regretted that the average nurse of today has no better insight into the mental condition of her patient, and the importance of stimulating and working for a healthier state of mind as well as body. A work which should be in the library of every training school, and well worth purchasing by every nurse.

The Writing of Medical Papers. By Maud H. Mellish, Editor of the Mayo Clinic Publications. 12mo of 157 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $1.50 net.

The work of Maud Mellish as editor of the Mayo publications is well known to those familiar with the Rochester organization. A perusal of the average medical paper convinces every reader of how poorly even many of our best papers are written. This little work is recommended for careful reading by any and every physician who writes for medical magazines. It would be hard to place a value on it.

An Introduction to Child Psychology. By Charles W. Waddle, Ph. D. Houghton-Mifflin Company, New York.

This work of 317 pages is intended to serve as an introduction to child psychology in Normal School, College and University classes. It will be found, however, most useful to physicians, parents and social workers. The author has treated in an intensive form, the more important topics such as "Historical Background,"—"Methods of Study"—"Biological Perspective"—"Heredity"—"Play"—"Linguistic Development"—"Delinquency" and "Capacities."

Mental Disease a Public Health Problem. By James V. May, M. D. Richard G. Badger. The Gorham Press. Boston.

This work by the distinguished Superintendent of the Boston State Hospital covers the public health aspect of mental disease in a new way. The subject has been lately attracting the attention of those outside the medical profession, interested in the study of human behavior and conduct, and the social aspects of this great problem. The book is written for the attention of these, as well as members of the profession, medical students and nurses, and Dr. May has brought together the main facts regarding the mental diseases and patients who suffered from them, in a style which will appeal to the lay reader as well as to the medical man. The work is most highly recommended and should have a most popular reception, as its worth is unquestioned.

Heredity and Environment in the Development of Man. By Edwin Grant Conklin. Princeton University Press. Princeton. 1922. Price $2.50.

The origin of individuals is undoubtedly the greatest biological subject of the present age and this work now in its fourth edition is an authoritative description of the subject. The lectures which comprise the volume were given at Northwestern University in 1914 and afterward repeated at Princeton. The work covers "Development"—"Inheritance"—"Cellular Basis of Heredity and Development"—"Influence of Environment"—"Genetics and Ethics."

Human Efficiency and Levels of Intelligence. By Henry Herbert Goddard. Princeton University Press. Princeton. Price $1.50.

Any work by the distinguished director of the Bureau of Juvenile Research of Ohio is gladly brought to the attention of the medical profession, for Dr. Goddard's work on the Feeble Minded is familiar to every medical man. The present volume, published by the Princeton University Press, is a series of lectures delivered at Princeton University in 1919, and is recommended most highly to our readers.

How the Mind Cures. By George F. Butler, A. M., M. D., New York, Alfred A. Knopf, Publisher. Price $2.50.

The medical man of Wisconsin is familiar with the popular works of our former neighbor, Dr. George F. Butler, whose untimely death occurred during the 1921 meeting of the A. M. A. This, his last book, was written to be placed in the hands of the patient, and to advise the patient how to avoid worry, how to overcome nervousness, how to develop confidence, etc., etc. It measures up to Dr. Butler's other works and is written in the same entertaining style. It is throughout a series of questions and answers by a "Seeker" and his doctor.

Juvenile Delinquency. By Henry Herbert Goddard. Dodd Mead & Company. New York. 1921.

This is another work by the author of "Human Efficiency" reviewed in this issue of the Journal. It deals with juvenile delinquency from the standpoint of mental deficiency. He writes of the whole problem in an interesting, honest and sane manner, and this little work will long serve as a classic of its kind, for one of the most serious problems of modern society.

Instinct and the Unconscious. By W. H. R. Rivers, M. D. 2nd edition. The MacMillan Company. New York. 1922.

This book has two parts, the first gives the substance of lectures delivered in the psychological laboratory at

Cambridge, and repeated at Johns Hopkins under the direction of Professor Adolf Meyer. The second part consists of appendices in which are republished occasional papers written as a result of clinical experience gained during the war. The general aim of the book is to put into a biological setting the system of psychotherapy which came to be generally adopted in Great Britain in the treatment of the war-neuroses. It is a wonderfully interesting work and well worth one's time.

Applied Chemistry. By Fredus N. Peters, Ph. D. Illustrated. C. V. Mosby Company. 1922. Price $3.50.

This is an elementary text book of chemistry for secondary schools, though it seems very complete and detailed for such study. The author has succeeded in presenting the chemical facts of everyday life in a readable form and in making them interesting.

Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, M. D. 2nd Edition. 86 illustrations. 10 color plates. C. V. Mosby, St. Louis. 1922.

The first edition of Pottenger's splendid work was very successful, and the Journal feels sure that the second edition fills a real need in medical literature. There has been an awakened interest in this phase of medicine which makes the patient himself the first object of study. The work is divided into three parts: "The Relationship Between the Vegetative Nervous System and the Symptoms of Visceral Disease"—"Innervation of Important Viscera with a Clinical Study of the More Important Viscerogenic Reflexes" and "The Vegetative Nervous System." It is impossible to attempt a review of so important a work in the space allotted for book review in a medical journal. We can only urge the importance of the work and a closer study of the subject by every physician.

Transactions of the American Pediatric Society, 33d Session. Edited by Joseph Brennemann, M. D. 1921.

The papers read before this national organization are compiled in book form and published to go with information regarding the Society. It is a most interesting collection of papers and is the only means of securing them.

Psychoanalysis and the Drama. By Smith Ely Jelliffe, M. D. and Louise Brink, A. B. Nervous and Mental Disease Publishing Co. New York and Washington. 1922.

The study here presented by our greatest American author on psychoanalysis are examinations of a few of the dramas presented upon our stage in recent years. They are not complete analyses of the plays, but suggestions rather along the line of the fuller service which the drama accomplishes. They seek to put into the more precise form of conscious statement the conflicts, the defects and the solutions which constitute the unconscious material out of which dramas are woven. This is, indeed, most interesting reading and the authors are to be congratulated.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By George E. deSchweinitz, M. D., LL.D. Professor of Ophthalmology in the University of Pennsylvania. Ninth Edition, Reset. Octavo of 832 pages with 415 text-illustrations and 7 colored plates. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $10.00 net.

Dr. deSchweinitz' text book on Diseases of the Eye has long been accepted as the standard American text on the subject. It has now reached its ninth edition and, as heretofore, the revision includes reference to important ophthalmic observations, thereapeutic measures and surgical procedures which have been made, recommended, and devised during the last four years. It is quite impossible to comment in detail on the many splendid features of Dr. deSchweinitz' work. It is written in the author's usual charming English and beautifully gotten together and illustrated with 415 cuts and 7 colored plates. It will long remain the standard by which other texts on the subject shall be judged.

The Practice of Medicine. By A. A. Stevens, M. D., Professor of Applied Therapeutics in the University of Pennsylvania; Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Octavo of 1106 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.50 net.

Dr. Stevens has given us a new text book on the practice of medicine which is a credit to the author, and which will rapidly assume, we predict, a place for itself among the few standard texts on practice. He gives us a description of the various internal diseases in accord with our present state of knowledge, but written concisely, and given to the student and practicing physician the essential points in pathology, diagnosis and treatment. References have been inserted for the benefit of those who wish to study more fully any particular subject. The book is remarkably free from the errors so frequently detected in first editions, and gives the appearance of a much older text which has been carefully corrected a number of times.

A. M. A. Pamphlets. Female Weakness Cures, 68 pp. Illustrated. Price 15c. Epilepsy Cures and Treatments, 38 pp. Illustrated. Price 15c. Obesity Cures, 62 pp. Illustrated. Price 15c. The Nostrum and The Public Health, 16 pp. Price 10c.

The first three pamphlets deal, as the name denotes, with specific products of the types described in the title. The fourth pamphlet does not deal with any specific nostrum, but discusses the general relation of the "patent medicine" evil to the public health. This pamphlet also contains an article on "Truth in Advertising Drug Products" and three short items on certain phases of the nostrum business.

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Gynecology and Obstetrics, and Walter Friedrich, M. D., Chief of Division of Radium Therapy, University of Freiburg im Breisgau. Only authorized English edition with an Appendix. By Henry Schmitz, M. D., Professor of Gynecology and Head of Department, Loyal University School of Medicine, Chicago, Illinois. With 86 Textual Figures and 20 Colored and 11 Black and White Plates, and 32 Tablets. Rebman Company. New York.

This book takes up physical principles of radiotherapy—the measuring of intensity and dose—the importance of secondary radiations for the dose—the biologic principles of radiotherapy—and the application of the above mentioned principles, filtration screening, etc., in therapeutic use.

It is illustrated with drawings and colored plates showing the appearance of skin lesions before and at stated number of days after exposure to X-ray's, radium and mesothorium. The colored plates are of unusual quality and very serviceable particularly to those who do not have or do not improve the opportunity to make clinical observations in the larger radium clinics. The book is a most desirable addition to any private or public medical library, and cannot fail to be measureably serviceable to anyone interested in the scientific and clinical aspects of raytherapy.

Radium Therapy. By Frank Edward Simpson, A.B., M. D. Professor of Dermatology, Chicago Policlinic; Adjunct clinical professor of Dermatology, Northwestern University Medical School. With 166 Original Engravings. St. Louis. C. V. Mosby Company, 1921.

The subject matter of the book is divided into the Radioactive Substances—Radium. Its Origin and Chemical Nature—Radium Emanation and Radioactive Deposit—The Technic of the Preparation of Radium Emanation for Therapeutic Use and the Method of Measuring its Gamma Ray Activity—Absorption and Filtration of Rays—Physical and Chemical Effects of Radium Rays—Biologic Effects of Radium Rays—Dosage—The Technic of Radiation—Radium in General Surgery—Radium in Gynecology—Radium in Dermatology, and into other subheadings. It is profusely illustrated with cuts and photographs which are creditable to Radium therapy, to the author, and to the publisher.

PULMONARY ASPIRATION.

H. J. Corper, Denver (*Journal A. M. A.*, June 17, 1922), shows that the immediate intrapulmonary distribution of inhaled particulate matter (smoke or soot) differs from that of the inspiration or aspiration of particulate matter suspended in fluids (India ink). The former is found heaped up at the points of bifurcation of the air passages or on any prominent projections, as seen in the histologic sections, with relatively little being retained in the alveoli; while the insipid fluid quickly reaches the alveoli, where the insoluble particles of it are retained for a comparatively long time by the trap-like action of these terminal air vesicles. While the inhaled particles are fairly uniformly distributed throughout the entire lung, the inspired or aspirated fluid is irregularly distributed, and its location is determined to a great extent by posture. The pulmonary inspiration or aspiration of fluids after nose instillation occurs readily in dogs and rabbits under ether anesthesia, and in the horizontal posture with the head slightly elevated. Since the inspired fluid is confined to the upper lobes of the lungs and to the side on which the animal lay while without anesthetic, repeated nose instillations are usually unsuccessful in this posture. In the vertical posture, however, the inspiration of fluids into the lungs is easily attained in rabbits, but less so in dogs, without anesthetic, the fluid being found mainly in the lower lobes. The postural distribution can be imitated in an artificial chest, indicating that it is determined by mechanical means, gravity and inspiration or aspiration. By utilizing the postural data, right or left side upper lobe pulmonary tuberculosis, possessing many of the characteristics of the disease in man as to location, the formation of pleural adhesions, tissue granulation and necrosis, can be rereproduced in dogs, by the nasal instillation of suspensions of tubercle bacilli while the animal is under ether anesthesia and lying on the right or the left side during the operation.

PROPHYLACTIC VACCINATION OF DOGS AGAINST RABIES.

In several parts of the United States, rabies has been more prevalent in recent months than for many years. Connecticut and western Massachusetts, particularly, seem to have suffered from the ravages of several rabid animals, one large dog in Holyoke biting twenty persons. As well known, Pasteur's method of vaccination against rabies has been successfully practiced on thousands of human patients; but it has never been used to any great extent in protecting dogs, largely because of its great expense and time-consuming nature. An important advance now seems to have been made. Two Japanese investigators, Umeno and Doi, have recently found it possible to confer immunity on dogs with a single injection. The method of immunization consists of a single dose of phenolized fixed virus, and is said to have been used in certain regions in Japan with great success. Eichorn and Lyon[1] have recently undertaken to test the degree of immunity actually produced by a single vaccination. Their results confirm those of the Japanese workers, and are most encouraging. Their experiments justify the conclusion that dogs injected with a single dose of phenolized fixed virus are protected against large doses of street virus. This method offers a promising opportunity of controlling, if not eventually eradicating, the disease. Compulsory vaccination of all dogs in localities where the disease is prevalent might readily be employed. The method should be given a trial by the public health authorities in some locality where rabies is prevalent and where the results can be properly controlled.—*Jour. A. M. A.*, June 17, 1922.

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THE GOITER PROBLEM AS IT CONCERNS THE GENERAL PRACTITIONER.*

BY E. F. BICKEL, A. B., M. D.

OSHKOSH.

The object of my paper is to review a few points concerning the management of conditions associated with changes in the thyroid gland, with special reference to the part the General Practitioner may take. There is no question as to the increasing prevalence of goiter and that its incidence especially interests us, whose field of work lies in the Great Lakes Basin. To Dr. Blankenship's exhaustive review of the incidence of goiter, read at our last year's meeting I might add the figures of Dr. Levan[1] published within the last year. In Houghton County, Michigan, he found 1,146 cases of goiter in 1,783 unselected cases studied. These enlarged thyroids included 682 simple goiters, 420 adenomata and cystomata and 44 colloid goiters. His careful observations were made under the usual conditions of general practice.

The family physician because of his intimate touch with his patients invariably sees abnormal thyroid conditions first, from the goitrous mother to her family of goitrous off-spring, in which progeny may be found thyroid dyscrasias ranging from myxodema to severe Graves' Disease. Therefore, because of first contact with the disease in its different aspects, he has the best opportunity of instituting early management.

There are varieties of thyroid disease whose pathology precludes management by the general practitioner, which are primarily surgical. They are mentioned at the beginning of this paper only for the purpose of exclusion; i. e. thyroids which produce pressure symptoms; toxic adenomata; those which have within them foci of malignancy or tuberculosis; and thyroid changes which are secondary to foci of infection, such as apical abscess, diseased tonsils, a "controlling appendix" or tubo-ovarian disease.

Outside of the above mentioned conditions there remains an enormous number of goiters that come to the general practitioner which should be recognized early and treated promptly. To this number belong: (1) Goiter of childhood and adolescence. (2) Goiter of pregnancy, and (3) Exophthalmic goiter.

In France goiter commissions have been working on the proper treatment of endemic goiter for many years. Kocher and other Swiss observers first applied iodine practically in the treatment of goiter. In many sections, Swiss schoolrooms are supplied with open wide mouth bottles containing iodine crystals.

To workers in our own country belongs the credit of producing evidence on a much larger scale than any forthcoming heretofore, of the value of administering iodine to children of school age. For the past three years all the children in the public schools of Akron, Ohio, except a very small number whose parents objected, under the direction of Marine & Kimball[2], have been treated by the following method: Pupils in the grades from the 5th to 8th are given 3 Gr. of Sodium Iodide three times a day for 10 days. This quantity (30 Gr.) is repeated in Spring and Fall. Children in the 9th, 10th, 11th and 12th grades are getting 6 Gr. t.i.d.—for ten days twice a year. A more exact method is followed by Marine when cases can be individualized, which consists in giving one drop of Syr. Iron Iodide for each year of the child's age for 10 days twice yearly. As the result of their work which started in 1918 with a group of children, 58.4 per cent of whom had enlarged thyroids there has been no increase in size of existing goiters except in two cases (one girl with badly infected tonsils and another with congenital syphilis; and there has been practically no further occurrence of goiter in the remaining children thus treated. Marine and Kimbal conclude that "Simple Goiter is probably the easiest of all known diseases to prevent."

Sloan of Cleveland in which city it is said, "every other dog met with on the street has a goiter," advocates the use of iodized table salt in strength of 1-5,000 as a routine prophylactic. He concludes in an article[3] speaking especially of the table salt treatment,—"If iodine could be properly

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administered, Endemic goiter should be practically eliminated in the second generation and other goitrous conditions would not become exaggerated."

In treating children under puberty an iodine rash occasionally occurs, which is of no consequence except to indicate a withdrawal of the drug.

Hector Mackenzie[4] states that hyperthyroidism is very rare in childhood, and that he has yet to see a typical case under the age of twelve. No cases developed at this early age in the work of the Akron observers. It would seem therefore that the administration of iodine to children in the preadolescent period should cause no symptoms of hyperthyroidism.

Marine cautions that in a very few, almost a negligible number, thyrotoxic symptoms develop rapidly after giving iodine to girls at puberty even in the absence of a palpable thyroid. Such occurrence must be borne in mind, and repeated observations made of the effect of medication in those whose careful preliminary examinations show them to have tachycardia, or a suggestion of tremors of extended fingers.

Thyroid Extract, or Thyroxin in appropriate doses is advised by many authors. Kendall has proven by extensive experiments[5] that the efficacy of Thyroid Extract depends upon its content of pure iodine. Iodine medication per se, therefore, in simple adolescent goiters is usually sufficient.

Observations[6] in the treatment of pregnant goitrous bitches and ewes prove without doubt the value of iodine medication in pregnancy. Endemic goiters among the sheep of Northern Michigan has been practically wiped out and that industry saved from extinction, by applying this knowledge. It remains for our profession to be as solicitous about the human offspring of goitrous mothers as the farmers of Michigan are of their lambs. Even in severe exophthalmic goiter Bram[7] would not despair of instituting his routine Quinine and Ergot treatment. He reports two cases who took these drugs before and during the entire nine months of gestation with very favorable termination of pregnancy.

We must all be on our guard for cases of hyperthyroidism masking under the guise of many otherwise named conditions, so that proper early management may be instituted. We have come to view many cases which previously were diagnosed as psycho-neurosis, neuro-muscular-asthenia or irritable heart as insipient or even advanced cases of hyperthyroidism. Wier Mitchell wrote "Fat and Blood" a number of years ago. At that time his wonderful cures of "Neurasthenia" with complete rest, included without doubt many cases, which with the exact diagnosis of our later day, would be classed somewhere in the plus column of the Basal Metabolism reading. Many authorities, during and since the war, have emphasized the fact that psychic and physical strain were the causative factors of so-called shell shock. P. Herman Johnson[8] and P. C. White state that great fatiguability, tremors, tachycardia, irritability, insomnia, emaciation with thyroid changes were present in most of their cases of irritable heart, and they diagnose these conditions without reserve as Graves' Disease.

The type of thyroid hyperplasia with mild toxemia represented by the high school girl repeatedly comes to our office with a diagnosis made by the mother of being "very nervous." With proper management, bearing in mind the real pathology, they can be changed from irritable, crying amenorrhoeic or dysmenorrhoeic girls into even tempered, healthy daughters.

The late Dr. Janeway refers to early management of goiter as follows[9] "I have seen that symptoms when recognized early permit of successful medical treatment in spite of the fact that for the patients studied nowadays in hospitals surgery is usually necessary. One of the reasons for difference of opinion between surgical and medical men is that we tend more and more to treat our patients in the hospital (where they arrive late). In private patients who will early cooperate, however, the medical man may accomplish cures which are permanent. Such patients must be carefully selected and more carefully managed."

May not the fact that he is more likely to see later cases cause C. Mayo[10] to conclude that "after due consideration a *few* (italics mine) patients make good recovery without operation, etc," also that "failure or but temporary benefit result from x-ray or radium."

Dr. John H. Musser in one of the last papers[11] he read said, "Finally, my conviction is that the surgeon does too much and the internist too little in the treatment of goiter."

A volume[12] on the treatment of goiter recently from the press concludes thus,—"That Graves' Disease or exophthalmic goiter is gradually becoming recognized as a disease strictly non-surgical in nature, requiring non-operative remedial measures,

is now being conceded everywhere. This condition is no more a subject in the realm of surgery than is pneumonia, or typhoid fever or scarlet fever."

As to whether more advanced cases of Graves' Disease, should be operated upon, the final decision may not be within the general practitioner's domain. However, not as in a disease such as acute appendicitis, is it necessary to hurry patients to the surgical table in order to avoid subsequent disaster. Ample time is at hand for determining the social, industrial and hygienic factors which often play so important a role in the early history of the disease and then it behooves the family advisor after first assuring himself of the wisdom of his course of treatment, to inspire confidence of cure into a mind that usually is vacillating to begin with. Infinite patience with the slow convalescence is absolutely necessary. Recovery must be measured in terms of *months*. Goetch[13] says, "When medical measures have not produced the desired improvement in three to six months time, surgery often gives splendid results." Rest, properly selected surroundings, carefully planned for hygiene, during these months of waiting for the proper endocrine balance to return, are the sina qua non. To establish a successful curative regime in exophthalmic goiter is a harder task by far than to guide the tubercular patient back to health.

The value of quinine, ergot, bromides, iron, arsenic, iodine, thyroid and other glandular extracts, as beneficial medical agents must be thoroughly appreciated. Mechano and hydrotherapy may be advised in selected cases. The increasing number of favorable reports coming from our best roentgenologists as to the curative effects of x-ray and radium in Graves' Disease prove that these methods are of distinct value as adjuvants to nonsurgical management.

In these, as in all treatments, the most valuable guide as to their efficacy is the taking of repeated, careful Basal Metabolism readings by a trained technician. In fact in a great majority of all adult thyroid dyscrasia a definite classification according to their plus or minus Basal Metabolism rating is of paramount importance before internal medication, ray treatment or surgery are instituted. I do not mean to intimate that the general practitioner can be his own laboratory technician in making the various diagnostic tests but I believe he may develop the clinical capacity enabling him to be the integrator to which Barker[14] refers and that sound judgment may be expected from him as to the proper distribution for treatment of cases after he has made the definite diagnosis.

The goiter problem must interest the general practitioner further than to alone concern himself in actual treatment. He may take a definite part in finally arriving at the absolute causes of goiter, by making accurate observations of the surroundings of all his private cases. The chief theories explaining its etiology advanced by authorities such as McCarrison, Crotti, Marine, and Zueblin center around soil, water supply, microtic infections or organic toxins. Plummer believes the fact to be fairly well established[15]. "That introduction of bacteria into the digestive tract is an important factor, if not the primary cause of endemic goiter," and "to control adolescent goiter means to control adenomatous goiter also."

The family physician cannot be a doctor of public health per se, but he can be a power in the community in his own private way, to educate the public concerning the importance of instituting the proper prophylactic measures against this as well as other diseases. Time will not be spent amiss, as was said before, in observing the social, industrial and physical background in all goiter cases. Especial interest should be taken in drinking water, observing its relation to sewage disposal and surface soil. Bacteriological and chemical analysis should be made freely. How much good might be accomplished if all our local medical societies were to get behind a public movement which should have for its purpose giving an absolutely pure drinking water supply to every school child, in rural as well as municipal communities, by installing a deep well on every country school ground, and furnishing pure water from correct bubblers in every city school.

CONCLUSION.

The duty of the general practitioner is to detect goiter in the various forms in its very earliest manifestations and to institute early treatment. The problem should also concern him in the light of arriving at the etiology of each individual case, especially should he be alert to his opportunity of educating his families in favor of hygienic surroundings.

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MEMORY DEFECT OF KORSAKOFF TYPE, OBSERVED IN MULTIPLE NEURITIS FOLLOWING TOXEMIA OF PREGNANCY.*

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It has long been recognized that alcoholic multiple neuritis is frequently accompanied by an interesting type of psychosis which is now popularly designated as Korsakoff's psychosis. Impairment of immediate memory, mild mental clouding, confusion and fabrication, comprise the salient features of the syndrome. For a considerable period of time, after the acceptance of the Korsakoff syndrome, little reference was made in the literature to its occurrence in the multiple neuritides having their etiologic basis in toxemias other than alcohol. Recently however, our attention has been called to the presence of memory defects associated with Carbon Monoxid poisoning, and it has been observed that not infrequently such defects have been of long duration, if not permanent in character.

Some time in April 1914, I was afforded the opportunity of examining Mrs. B. W. T. who had recently been admitted to the Iowa Methodist Hospital. Mrs. T. was at that time suffering from a well marked attack of multiple neuritis, which had followed shortly after a therapeutic abortion, necessitated by pernicious vomiting of pregnancy. In this case, aside from the ordinary polyneuritic symptoms, the point of chief clinical interest was the memory defect which she then exhibited, and which immediately made me think of its similarity to the amnesia observed in alcoholic neuritis. I was therefore, much interested in following up the subsequent course of the malady. It did not occur to me then that such cases are relatively infrequent; therefore I had no thought of publishing a clinical report at the time the case was under observation. It was not long after however, that I saw a similar case which also followed pernicious vomiting of pregnancy, and during the past two years, two others have come to my attention.

*Read before the Tri State District Medical Society, Milwaukee, Nov. 15, 1921.

I regret that in making this report, much of the minutiae and clinical detail may have to be omitted owing to the fact that three of the patients were examined during hurried consultations in the rural districts, but I trust that I shall bring out sufficient data in each case, to establish beyond a reasonable doubt, the diagnosis and the associated memory defect which makes this report justifiable.

In looking over the text books on neurology, psychiatry and obstetrics, I find few helpful references pertaining to this subject, which is frequently dismissed with a statement to the effect that multiple neuritis due to puerperal infection is an occasional complication of the puerperium. The whole subject of toxaemia of pregnancy is as yet, in a chaotic state. It is to be hoped that modern methods of research in the field of blood chemistry may clear up some of the theoretic speculation which pertains to it, but at the present time we only know positively, that certain toxins, apparently of endogenous origin, are frequently manufactured in the body of the pregnant woman and do lead to eclampsia, pernicious vomiting, and other toxic phenomena.

Before presenting my case reports I would like to refresh the reader's memory on a few points pertaining to the subject of multiple neuritis, making special reference to the so-called puerperal type, and to those forms in which marked morbid psychic phenomena have been most prone to occur. It is a well established conclusion that focal or multiple neuritides may be caused by a great variety of infectious diseases and poisons, that the infections which are most prone to generate tenacious toxins are most frequently followed by neuritis, and that the neuritides following metallic poisoning usually manifest themselves as subacute or chronic sequelae, no matter whether the intoxication be acute or chronic. We are much more apt to have multiple neuritis following diphtheria, scarlatina and typhoid, than we are the lighter infections observed in the more mild and evanascent exanthemitia. This is undoubtedly due to the fact that in the former diseases, the nervous system is more persistently saturated with chemical poisons generated or incited by the micro-organisms which have invaded the body. In other words, it seems apparent that the causative agents of these more grave disorders produce toxins in greater abundance, and that said toxins are more freely distributed throughout the body by way of the circulatory system and lymphatics.

Among other forms of multiple neuritis the alcoholic type has possibly afforded the greatest opportunity for clinical study, since the charity hospitals in our large cities have heretofore always harbored a large contingent of liquor saturated, human derelicts. In 1887, Korsakoff[1] described a form of mental disturbance which he found to be a very frequent complication or symptom, of alcoholic multiple neuritis. This psychosis presents as its outstanding features, a defect in immediate memory, retroactive amnesia and fabrication, with almost normal retention of past memory. At the present time the literature teems with case reports confirming his observations.

Since the advent of the automobile, and the more extensive use of coal gas, quite a few cases of Korsakoff's psychosis have been reported as occurring in the carbon monoxid neuritides, and it has been observed that the defect in immediate memory in these cases, has been very marked and prolonged,—so prolonged, in fact, that it is thought that in many instances it is permanent. It was not until I had the opportunity to observe the clinical course in the case of Mrs. B. W. T. whose history subsequently appears in this report as Case I., that I knew that the Korsakoff syndrome might appear in the multiple neuritides having their etiologic origin in the other forms of toxemia.

It will be of interest to note that in a very extensive and detailed contribution to this subject by Von Hösslin[2] the statement is made that the Korsakoff syndrome is reported as having been observed in the multiple neuritis following toxemia of pregnancy, long before Korsakoff placed his syndrome before the scientific world. In addition to this, the same contributor states that pro rata, the incidence of this psychosis is much more frequent in the neuritides following gestational toxemia than in alcoholic neuritis. (The same old story—"There is nothing new under the sun.") Von Hösslin is further responsible for the following reliable conclusions pertaining to this subject:—that there is a form of multiple neuritis which takes its origin in the toxemia of pregnancy, which is wholly independent of any infection; that this malady may have its onset either before or after, delivery; that when recognized, therapeutic abortion should be resorted to; that the termination of pregnancy hastens recovery; that convalescence is protracted, it having been

four years before the patellar reflexes returned in one case which came under his observation, and that isolated neuritides may occur in place of the disseminated type, their location being determined frequently by intercurrent circumstances, such as slight trauma and stretching of the nerve trunks during the violent physical activities incident to delivery, or as the result of pressure of the foetal head in the mother's pelvis. This rather lengthy reference to Von Hösslin's article is prompted by the fact that as far as I have been able to find, it is the most comprehensive and exhaustive treatise obtainable, on this subject.

In making a study of the effect of various toxic substances on the nervous system, it has probably occurred to us all that although their baneful effect most frequently seems to confine itself to the peripheral nerves, it is reasonable to doubt whether this dividing anatomical line can safely be drawn. One has only to ponder upon the protean manifestations of Epidemic Encephalitis, the various forms of myelitis, and the nervous sequelae of the Flu, to convince himself that it is far oftener a "happen so" than otherwise, that one nervous structure becomes involved, and another remains intact. At this point the mental disorders which accompany such toxic processes as the one under consideration, tend to bridge over the gap, and give us a clinical foundation for the belief that in many, and possibly in all cases of profound toxemia resulting in multiple neuritis, the central as well as the peripheral nervous structures are involved.

In two of the cases to be subsequently reported, a temporary loss of sphincter control was observed, and while this was attributed at the time, to mental clouding, I have never been fully satisfied that this explanation is adequate. Then too, in Case II, also to be subsequently reported, the muscular atrophies which were pronounced during the third month of the illness, tended to be irregular in their distribution, suggesting a nuclear origin with preponderance of marked tissue reactions in certain spinal segmental areas. Apropos of this phase of the subject, we are indebted to Stuart[3] who in an article entitled "Puerperal Neuritis and Poliomyelitis," recites the clinical history of a typical fatal case of multiple neuritis originating in the toxemia of pregnancy, in which an autopsy was performed, followed by a complete systematic microscopic study of representative portions of the whole central nervous system. As a result of this investigation, it was found that in addition to the classical changes in the nerve trunks which characterize multiple neuritis, there were also extensive degenerative changes in the posterior and lateral tracts of the cord, and of its ganglionic cells as well, the cells of the anterior horns in the cervical region seeming to have suffered most.

Case I. Mrs. B. W. T. entered the Iowa Methodist Hospital, March 9, 1914, with an admission diagnosis of pernicious vomiting of pregnancy, and the following history was obtained from her attending physician, the husband, and the patient herself:

Female, age 29, married five years; one living child aged two; no previous miscarriages; vomited rather persistently for three months during the first pregnancy.

Family history negative, with the exception that one sister has twice been confined in a sanitorium for a brief period, on account of some mental disorder.

Previous history: At the age of ten, within a period of three months, patient suffered from measles, pneumonia and typhoid fever, but made an uneventful recovery from all; has had a few attacks of tonsilitis; at age of eighteen had a fall which she says produced some uterine prolapse; otherwise, previous history, negative.

Present history: Became pregnant about December 15, 1913; about February 1, 1914, began to suffer from severe incessant vomiting which continued for approximately six weeks, during the first month of which she was cared for in her home by her family physician. On admission to the Hospital March 9, the attending physician on whose service she was admitted, made the following clinical notes; "has been vomiting on an average of ten times a day, more in the morning, but also has severe attacks late in the evening; some blood has recently been observed in the vomitus; yesterday had some abdominal pain and a slight bloody vaginal discharge; thinks she has lost twenty pounds in weight since the beginning of illness; patient brought to hospital on cot; very weak; pulse 116; temp. 99; resp. 24; tongue moist and clean; cranial nerves negative; thyroid gland normal; heart and lungs negative; abdomen retracted; uterus enlarged and palpable; extremities normal. March 13, after restriction of food, and enemata containing large doses of Bromide, the vomiting has been much relieved; uterine pains

have increased and the hemorrhagic vaginal discharge has become more profuse; therapeutic abortion deemed necessary; March 13, uterus emptied: patient in critical state for several hours following operation; required considerable stimulation; now much improved; no vomiting." After the last notation, patient gradually improved, grew somewhat stronger, and up to April 1, it was thought that convalescence had been thoroughly established. A clinical notation dated April 1, indicates an unexplainable attack of vomiting, necessitating restriction of food. A pelvic examination at this time revealed no abnormality, and it was thought that patient was developing a neurosis. At this stage of the illness, urine analyses were negative, but a blood count revealed a mild degree of secondary anaemia. Shortly after this, Mrs. T. noticed that her lower extremities felt very heavy, that they tingled and were painful. This rapidly increased until the numbness was very pronounced. The power of voluntary movement was lost in the lower extremities and the pain became very severe. Within a few hours the same sequence of symptoms developed in the upper extremities About this time there occurred a very marked diminution in visual acuity. When the multiple neuritic symptoms became well established, it was noted that some mental confusion developed, the most remarkable feature of which, was a loss of memory for recent events. There was no distinct tendency to fabrication, but the memory defect was identical with that observed in cases of alcoholic neuritis or carbon monoxid poisoning. At one time patient thought that the noises in the hospital were the result of a reception being held.

At the time when I was permitted to see the patient, the multiple neuritis syndrome had been established for about two weeks. I found her very dull and apathetic. She responded to questions fairly well, but could not remember events which had transpired ten or fifteen minutes before. There was a marked flaccid paralysis of all four extremities; the deep reflexes were abolished; the nerve trunks were very sensitive to pressure, and the peripheral portions of the extremities were anesthetic and analgesic. The muscles of the extremities, and some of the trunk muscles were atrophic. The pupils responded normally to light and distance. At this time a loss of sphincter control tended to confuse the diagnosis, but it was subsequently determined that the incontinence of bladder and bowel was due to her cloudy mental state, and not to spinal cord involvement. A blood Wassermann made at this time was entirely negative. After suffering for over a month from the neuritic symptoms, during which time the stomach and eye symptoms completely cleared up, Mrs. T. was discharged from the hospital, and returned to her home. The subsequent history pertaining to her convalescence I have recently obtained from the patient herself. She makes the following statement: "My hands and upper extremities improved first; the sensibility came back first, then the muscular action began to improve, but it was late in August 1914, before I could hold my hands on a level with my forearms (on account of wrist drop); I was unable to get about on my feet until February 1915; the return of sensibility here as in the upper extremities, preceded that of motion; one thing which delayed walking, was the fact that my legs and thighs had become drawn up during the period of their disability, and it took considerable massaging and manipulation to get my knees straightened out; my memory had pretty much returned by the time I began to walk, but even now, (December 5, 1920) it is a little bad for recent events." At the time Mrs. T. gave me the history of her convalescence, I made a brief neurological examination for the purpose of ruling out any cord disease, such as tabes, and the only abnormalities I could detect were a slight weakness in the anterior tibial group of muscles, absence of the achilles jerks, and a little tendency to steppage gait. The pupils were prompt to light and distance, and there were no indications of any nervous trouble that could not well be explained by her previous attack of multiple toxic neuritis.

Case II. Mrs. H. P., female, age 26; married five years: no living children; husband living and well.

Family history negative, except that the mother of the patient is somewhat neurotic, and vomited a great deal throughout her pregnancies.

Previous history, negative.

Sometime in July, 1916, patient became pregnant: at about the end of the sixth week began to be very nauseated and vomited frequently; vomiting rapidly increased in severity and reached its acme about the middle of October; every effort to control the trouble seemed to be fruitless; on November 1, it was decided that a therapeutic abortion was advisable, and this procedure was resorted to at once; patient states that she has no recollection of entering the hospital three days

prior to the abortion; within a very short time after the uterus was emptied, probably a matter of two or three days, a marked weakness developed in the lower extremities; little pain was complained of, aside from what the patient designated as cramps in her legs; at the time when the lower extremities became disabled, there were a few occasions on which the bladder and bowel were evacuated involuntarily.

On November 19, I was permitted to see Mrs. P. in consultation with her family physician, and the following observations were made and noted; Patient is in fair state of nutrition; pulse 110; temp. 99 2 5; resp. 24; heart and lungs negative; pupils prompt to light and in accommodation; abdomen and pelvis negative; ocular fundi negative; hearing normal; speech normal; complains of some dimness of vision; facial movements normal; as is facial sensibility; tongue protrudes straight; palate normal; olfactory and gustatory functions normal. There is a marked flaccid paralysis of both lower extremities, with bilateral absence of both patellar and achilles reflexes. There is a slight bilateral and symmetrical diminution of sensibility to pin prick and cotton wool, most marked in the feet and gradually shading off into normal as the knees are approached. The posterior tibial and sciatic nerve trunks are hypersensitive to pressure. Plantar reflexes normal. The lower extremities exhibit hyperhydrosis. There is some weakness and clumsiness of the upper extremities with a slight suggestion of paresthesia.

The patient's mental state is of great interest. She is somewhat confused at times, highly emotional, and her memory for immediate happenings is extremely poor. She does not remember from one moment to another, what has happened. She is disoriented as to time, but not as to person or place. There is no distinct tendency to fabrication, although her confusion as to the lapse of time, occasionally causes her to make misstatements. A urine analysis reveals a faint trace of albumen with a few hyalin casts but is otherwise negative. After having examined Mrs. T. a short time previously, it was not at all difficult to arrive at a diagnosis in this case. I was particularly interested to note the same memory defect occurring in both cases.

In January 1917, I made a trip to the home of Mrs. P. and made a second examination, with a view to determining the progress or degree of improvement which she had made, and I here present the following memorandum: Mrs. P. presents no abnormalities of the cranial nerves; she has full control of the upper extremities, and there are no sensory changes to be made out, save for a little hypesthesia of the cutaneous surfaces of both feet. She is now able to flex both thighs on the abdomen, can move both feet and all the toes quite freely, but cannot extend the legs on the thighs. Dorsal flexion of the feet is still accomplished with great difficulty. The muscles of the lower extremities are uniformly and markedly atrophic, and there is even some atrophy of the lumbar muscles. The nerve trunks in the thighs and legs are still very sensitive to pressure. The sphincters have been under complete control since the time of my first examination. The memory defect has almost disappeared, though there is still some difficulty in remembering recent happenings.

In a recent letter from Mrs. P. in answer to one of inquiry sent her before starting to complete this report, she states that she was unable to be about and use her lower extremities until June 1917, seven months after the onset of her illness, and she states that her memory was very noticeably impaired for a year after the initiation of her illness, and is, she thinks, still somewhat defective.

In this case, as in the previous one, a diagnosis of multiple neuritis with memory defect, following toxaemia of pregnancy, was I think, wholly justified, and in this case as in the former, there was at no time any convincing evidence of puerperal or gestational infection.

Case III. Mrs. E. K. E. formerly a nurse, became pregnant some time in August or September, 1918. During the second month of gestation she developed hyperemesis which reached its greatest severity during the third month, at which time her attending physician considered the advisability of terminating the pregnancy. Being exceedingly desirous of giving birth to a living child, she herself determined to brave the dangers and attempt to continue to full term. During the fourth month of the pregnancy, the vomiting became less severe, but about this time she suffered from an attack of the Flu, which contributed greatly to her exhaustion. Very shortly after her recovery from the Flu, in association with a residuum of the vomiting, she developed rather abruptly, a symmetrical, flaccid paralysis in all four ex-

tremities, accompanied by extreme pain, and acute sensitiveness of the nerve trunks. While these symptoms were manifest in the upper extremities, they were much more aggravated in the lower, and the peripheral portions were more involved than the proximal. There was some blurring of vision, slight diplopia, mild delirium, loss of immediate memory, but no tendency to fabrication.

I was permitted to examine this patient at the beginning of the seventh month of gestation. The essential features of the examination were as follows: temperature 99 4/5; pulse 120; blood pressure, systolic 119, diastolic 80; heart negative, with the exception of a very faint first sound at the apex; abdomen enlarged, the uterus easily palpable, with its fundus extending to a point two inches above the umbilicus; there was no evidence of involvement of the cranial nerves, save for unequal, slightly irregular, fixed pupils, which were unresponsive both to light and in accommodation; there was a marked weakness of the musculature of the wrists; sensibility to cotton wool and pin prick was diminished in the hands; the deep reflexes in both upper extremities were present, but diminished; there was slight atrophy of the small muscles of the hands; in the lower extremities a like condition was revealed, only in a more marked degree, the anesthesia and analgesia being very pronounced in the feet; there was great muscular weakness with foot drop; the posterior tibial nerves were exceedingly hyperesthetic to pressure and a moderate degree of muscular atrophy was noticeable; the patellar and achilles jerks were absent and complaint was made of subjective, deep seated, aching leg pain; the patient's most characteristic mental abnormality was a diminished immediate memory; in this case, this feature was not no pronounced, but was sufficiently so, to be readily observed on examination, and to attract the attention of her relatives and bedside companions; a blood count was not made; the urine was at no time of diagnostic interest, though on one or two occasions it contained a slight trace of albumen, with a few casts; the blood Wassermann was entirely negative.

Aside from confirming the diagnosis of the family physician, the principal reason for my having been called in consultation was to determine the advisability of terminating the pregnancy, or allowing the patient to go to full term. Inasmuch as I did not see her until the seventh month of pregnancy, at which time the vomiting had ceased and all the symptoms of the neuritis were receding, and inasmuch as we felt that delivery at full term would not be attended with much more strain than at seven months, we felt that the chances were about equal, whichever course was taken. We therefore allowed the patient to cast the deciding vote and permitted her to proceed without premature delivery. On March 28, 1919, some time during the eighth month of gestation, she was delivered of a slightly premature child, and died twenty-four hours later. I have been unable to gain any satisfactory information as to the exact cause of death, and am obliged to assume that it was the result of either heart failure or exhaustion.

The points of greatest interest in this case are:

1. The multiple neuritis with memory defect,

2. The fact that she had apparently weathered the storm of gestational toxemia, and an attack of Flu as well,

3 That premature delivery did not take place until the eighth month of the gestational period.

Case IV. Mrs. E. W., age 36, married fifteen years. Three previous pregnancies which went to full term; considerable vomiting in the early months of each.

Family history negative.

Previous history: The patient had one attack, of a psychoneurotic character, at the age of thirty, which lasted three and one-half months. Otherwise, previous history negative.

The pregnancy which seems to have been the exciting factor of the present illness is thought to have begun June 6, 1920. About June 28, patient began to suffer from hyperemesis which increased in severity, reaching its acme about July 15. She was unable to retain anything except a very small amount of nourishment, up to the time of therapeutic abortion, which was resorted to August 21, 1920. There was a slight elevation of temperature for a few days subsequent to the curettage, the highest point reached being 102°F. There were however, no other indications of sepsis. On or about, September 1, 1920, patient became disoriented—thought she was in some place other than her home; complained of pain in her lower extremities, especially in the posterior tibial region; within an hour after eating would forget the articles which composed the meal; was also disoriented as to time—could not remember persons who had been in to see her, a half hour after

they had made their visits, but her memory for past events seemed to be perfectly normal.

At the time of my examination which was incident to a consultation with the attending physician, on October 19, 1920, I had occasion to verify the mental peculiarities just given. In addition, I found the cranial nerves to be normal; heart and lungs negative; pulse 110; temperature 99 4/5; the movements and sensibility of the upper extremities normal; marked weakness of the muscles in the lower extremities, especially from the knees down; subjective and objective anesthesia most pronounced in the feet, shading off into normal in the vicinity of the knees; extreme tenderness of the calf muscles and pronounced hyperesthesia of the posterior tibial nerves on pressure. Owing to a lack of facilities, a blood count was not made. The urine analysis made by the attending physician just prior to my examination, revealed no abnormalities, save a slight trace of albumen.

Basing my opinion upon the clinical history and its sequence of events, together with the unquestionable evidence of neuritis in the lower extremities, and the characteristic mental disturbance, the diagnosis of puerperal multiple neuritis accompanied by a Korsakoff's psychosis, was made. In a communication received from her family physician, dated January 12, 1921, he states that all mental symptoms seemed to have passed away by November 20, 1920, and the patient was able to walk with assistance December 1, 1920. Her memory at the present time seems to be perfectly normal, but there still remains in the lower extremities, some atrophy and reduction of muscular power.

For the sake of clarity, it may be well to emphasize the outstanding features in the foregoing case reports. In all four cases there existed in the early months of pregnancy, hyperemesis. In case I and IV, therapeutic abortion was performed at the end of the third month, and in case II, during the fourth month. In case III, the patient went to the eighth month and was delivered spontaneously. In cases I, II, and IV, although there was abundance of evidence of profound toxaemia before abortion, the symptoms of neuritis did not occur until a short time after the uterus was emptied. In case III, the patient struggled through the state of hyperemesis and just prior to spontaneous delivery during the eighth month, seemed to be recovering from her neuritis. In all four cases the clinical evidences of multiple neuritis were sufficiently classical to place the diagnosis beyond reasonable doubt. Cases I and II, because of temporary sphincter incontinence, suggested the possibility of spinal cord involvement, and in case II, the irregular distribution of the muscular atrophies much more strongly suggested cord disease. In all the cases a loss of recent memory and unreliability of statement, were very pronounced symptoms. In case II, retroactive amnesia was a prominent feature. In case III, death occurred after delivery, while in Case IV, sufficient time has not yet elapsed to make a report possible. She is however, convalescent. In cases I and II, both patients feel that they have never fully regained their original powers of immediate memory, seven and five years respectively, after the onset of their illnesses. Mrs. T. (case I) still has absence of the patellar reflexes and a slight tendency to foot drop.

In conclusion I wish to emphasize the following salient clinical facts:

1. That toxic multiple neuritis is a frequent sequel to hyperemesis gravidarum.

2. That multiple neuritis may develop during gestation or in the puerperium without any dependable evidence of underlying infection.

3. That a mild psychosis of the Korsakoff type is very prone to occur in this type of multiple neuritis.

4. That therapeutic abortion is perhaps too long deferred in many cases of hyperemesis and is the best remedial measure, and the most sure means of preventing multiple neuritis.

5. That the Korsakoff psychosis was recognized as a very common accompaniment of multiple neuritis following hyperemesis gravidarum, long before Korsakoff affixed his name to the same syndrome which he observed in alcoholic neuritis.

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ACACIA FOR TRANSFUSION.

W. M. Bayliss (*Journal A. M. A.*, June 17, 1922), defends the use of acacia solution for intravenous infusion, when properly used, and discusses the objections raised to it. He insists that it is a matter of the greatest importance to use good samples of the acacia.

*DIAGNOSIS OF RENAL TUBERCULOSIS.

W. G. SEXTON, M. D.

MARSHFIELD, WISCONSIN.

The recognition of the late evidences of tuberculosis in any organ of the body as a rule is not a difficult problem while its detection in its incipiency presents difficulties that are only overcome by utilizing the very keenest senses of observation and by bringing to our aid many of the recent developments of clinical and laboratory research and this is especially true of renal tuberculosis.

In the past, we have overlooked or slighted many important danger signals, which if properly considered and investigated would have led to an earlier diagnosis of renal tuberculosis. The rapid strides that have been made in urology, together with an ever increasing literature on subjects pertaining to the genito urinary tract, have awakened many surgeons to the necessity for more thorough examinations, especially of those cases with obscure pain in the right side of the abdomen. The development of the idea of group practice has done much towards arriving at an early diagnosis of disturbances in the urinary tract, for consultations are easily and quickly secured and many lesions are thus detected in patients whose main symptoms suggested some other comparatively unimportant trouble.

The acute form of renal tuberculosis is invariably of the miliary type and is a bilateral lesion, factors which place it in the province of internal medicine, so I shall not discuss it at all.

The experiences of many investigators have produced these well established facts regarding chronic renal tuberculosis which may be accepted without any argument.

1. It is never primary in the kidney.

2. It is nearly always hemotogenous or lymphogenous in origin. While an ascending infection is possible it is rare.

3. In over 92% of cases it is unilateral.

4. It is practically always a surgical problem demanding nephrectomy as soon as recognized.

5. The results of surgery are excellent. The mortality is low and the relief very gratifying.

To thoroughly appreciate the means of diagnosis of renal tuberculosis, one must have a clear conception of its pathology. Probably the best classification is that given by Halle as the result of his study of one-hundred kidneys removed at operation and one-hundred from autopsies. He divides them into three groups.

1. The closed parenchymatous renal tuberculosis.

2. The open tuberculous pyelitis.

3. Renal tuberculosis of the mixed form.

In the first type the lesions are in the cortical region and columns of Bertini and next at the levels of cortical and medullary zones and at the levels of vascular arches. They encyst themselves easily. These he considers to be of hemotogenous origin.

The pyelitis type has its lesion outside the kidney in its sinus and in the calices. It disseminates rapidly and soon alters all the calices which may finally end in a tuberculous pyonephrosis. This is of lymphogenous origin.

The third, or mixed form, is the type commonly recognized at operation. Here the old parenchymatous lesions can be differentiated from the more recent lesions in the pelvis. The ureter is practically always involved to some extent either by direct implantation of tubercle bacilli or by toxic materials from the tuberculous focus. It may often become thickened and hard or even obliterated so that it can be palpated per vagina or rectum.

Crabtree believes that the primary focus in the kidney is in the medullary portion due to a slowing of the blood stream. Zondeck considers the arrangement of the blood vessels the most important factor. The vasa efferentia in the neighborhood of the cortex turn abruptly upward and quickly unite with the capillaries. In the centre of the cortex, the vasa efferentia take a more horizontal course and are somewhat longer before they lose themselves in the capillaries. In the lowest part of the cortex the vasa efferentia take a more angular course downwards and form the tuft like ramifications that run in the neighborhood of the papillae and only then become capillaries. This is the most common focus and the inference is that the tubercle bacilli come only from the lowest glomeruli and are then crowded out into the medullary portion where they lodge and start to develop. The tuberculous focus compresses the artery and results in either a thrombosis or an endarteritis and then an infarct. In other cases

*Read before the Meeting of the Wisconsin Surgical Association, at Milwaukee, Wisconsin, April 13, 1922. From the Marshfield Clinic.

the artery is eroded and then the tubercle bacilli are spread throughout the area this vessel supplies.

Figure I represents a rather advanced parenchymatous lesion with no involvement of the pelvis. It has one large solitary tuberculosis nodule in the cortex and medullary portion. One can readily see how a lesion like this would produce practically no hematuria or pyuria. Many of this type do not show any tubercle bacilli in the urine. The lesions may remain dormant for many years without recognition. It is this type that often suggests the possibility of a partial resection, which nearly always results in a rapid dissemination of tuberculosis throughout that kidney or in a generalized tuberculosis.

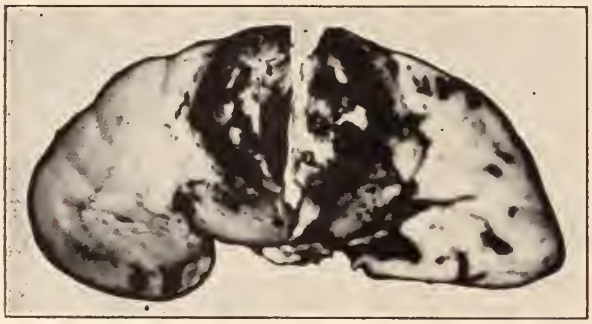

Fig. I. Closed parenchymatous renal tuberculosis. Marshfield Clinic Photo

Figure II shows an advanced stage of the pyelitis form where the pelvis is practically the only part involved, but is very extensive. These cases show an abundance of pus, frequent hematuria and many tubercle bacilli. They result in frequent bladder involvement.

Figure III is the common mixed form with a healed calcareous nodule in the upper pole and a more recent involvement of the pelvis. This case presented very few symptoms except tiredness and languor, as he expressed it "his neighbors thought he was lazy." He had an abundant pyuria and many tubercle bacilli.

Figure IV shows extensive destruction of almost the entire kidney and still with so few symptoms that the patient disregarded them and came in for treatment for a heart condition. This naturally showed a large amount of pus with many tubercle bacilli.

It must be remembered that many of these old cavernous lesions may be sterile or may contain very few tubercle bacilli. There may also be a secondary infection with Staphlococcus, Streptococcus, or B. Coli which may throw you off your guard.

Symptomatology: Renal tuberculosis is seen most frequently between the ages of twenty and forty. When met with in childhood it is more apt to be a part of a generalized tuberculosis. Most of our cases have been in women, but this is contrary to the usual findings. None of our cases have shown any marked constitutional symptoms their general condition being given as good.

We have noted that for some time before the onset of symptoms referable to the urinary tract these patients complain of a languor, tiredness or weakness with a dull ache, that cannot be called a pain, in the lumbar region. This ache soon becomes a pain referable to either the kidney or the bladder, usually the latter, producing varying degrees of vesical irritability. This gradually increased in severity until a strangury exists in which patient voids more often at night and then at very short intervals. The pain is at beginning and end of voiding and after voiding the patient has a feeling as though the bladder must be emptied again. Occasionally a true incontinence develops.

Fig. II. Open tuberculous pyelitis Marshfield Clinic Photo

There may be a pain in the side that is of the same character as a calculus. The bladder symptoms are so constant that one should assume that any unexplained bladder attack means tuberculosis.

Many a case of renal tuberculosis has been missed because the vesical irritability has been treated for "cystitis." It has been shown repeat-

edly that in the absence of urethral obstruction cystitis practically never exists except as a secondary manifestation of some type of renal infection. Pollakuria has been frequently noted in these cases. These patients usually void large amounts.

Hematuria has been one of the earliest symptoms of urine, as much as two or three liters per day. in our cases. These have been in small amounts and at long intervals. Only one case having frequent pronounced bleeding and this in a case with most of the involvement in the pelvis. The hematuria is usually terminal and in small amounts. This is not always present but when noted one should at once consider tuberculosis as it is one of the three most frequent causes of hematuria, the others being stone and tumors.

The pyuria may be so pronounced that it is noticed by the patient or may be so slight that it may only be detected by microscopical examination. Chills and fever are usually evidences of a late stage of the process or suggest a secondary infection. This has been of very little aid to us in making an early diagnosis.

Diagnosis: The general physical examination of these cases has not been of very great aid

Fig. III. Mixed form of tuberculosis
Marshfield Clinic Photo

to us. We have only detected pulmonary lesions in one by ordinary means, although the stereoscopic plates frequently revealed old lesions. In some we noted a large painful kidney on the affected side but most of them were negative. Vaginal examination in two cases showed a thickened ureter, while rectal examination in a few cases has shown involvement of the seminal vesicles. Pain on palpation over the bladder was quite common.

The microscopical and bacteriological examination of the urine is of great importance. The amount of pus seen depends upon the location of the focus in the kidney and the amount of destruction that has taken place. The same holds true for the amount of red blood cells seen. It must

Fig. IV. Tuberculous pyonephrosis
Marshfield Clinic Photo

be remembered that if the lesion is entirely in the parenchyma few if any pus cells will be seen. The reaction is strongly acid. As a rule there is not much albumin. The crucial test is the demonstration of the tubercle bacilli in urine that has been carefully collected so as to avoid contamination with Smegma Bacilli. Experience has shown that the tubercle bacilli may be present in abundant numbers one day and practically absent the next, and that even where there is cavity formation the contents may be sterile or contain few bacilli. On the other hand a secondary infection with Staphlococcus, Streptococcus, or B. Coli may be very confusing. The best method to pursue is to obtain about a liter of urine and let this stand for twenty-four hours, then centrifuge the sediment and stain for tubercle bacilli. It is better to examine several different specimens than to make repeated stains of the same urine. If there is an abundant pyuria with an acid urine and on ordinary culture there is no growth it is very strong evidence of a tuberculous process. In doubtful cases animal inoculation may prove of decided help, but care must be taken in the method chosen. Radiating the guinea pigs before inoculation has

a tendency to make them more susceptible and thus to shorten the length of time required before the animals can be examined. The tuberculin reactions have not given uniform results and very few men make use of them.

The most important method of diagnosis is the use of the cystoscope. By its use one is enabled to confirm our other observations and localize the side involved and the extent of the process. As the bladder is involved in the majority of instances the cystoscopic picture gives positive evidences of the disease. The most typical picture is the grouping of tubercles around the ureteral orifice. At times there may be only a blush or slight injection. Then there may be extensive ulcerations or hemorrhagic spots. Often the process is entirely limited to one-half of the bladder. In those cases that have an occluded ureter the orifice can not be located.

Catheterization of the ureters confirms the cystoscopic picture and at the same time offers the opportunity to do a differential phenolsulphonphthalien estimation. In performing this test it is well to consider it mainly in a comparative sense for the passage of the ureteral catheters may produce partial anuria, so the total amount is not always a true index of the functional activity of the kidneys. We have not hesitated to catheterize the sound kidney, for we believe that chances of infecting it are not great and the benefits derived are greater than the risk taken.

The X-Ray is another valuable aid. Unfortunately only a small proportion of cases reveal anything abnormal on the ordinary plate. Recently Braasch, of Rochester, and Waters and Colston, of Baltimore, have demonstrated plates with shadows that represented calcareous lesions, especially in the occluded type of kidneys. It is reasonable to suppose that with more experience with the Potter-Bucky diaphragm or with an improved screen technique that we shall see more evidences of tuberculosis in the straight plate.

Pyelograms will give us a definite idea of the amount of destruction of the kidney and the amount of deviation from the normal. As the pathological changes occur first in the calices one must expect to see alterations here. They are irregularly dilated with uneven borders and at times may be detached from the pelvis. As the process extends there develops a picture that is a pyonephrosis. As the destruction occurs in the parenchyma one gets a picture that is rather moth eaten and irregular in appearance. These are difficult to differentiate from a pyonephrosis. Ureteral dilation can easily be discerned. We have not been able to detect any changes in our pyelograms that would be diagnostic of tuberculosis.

Frequently patients consult surgeons for pain that simulates a renal colic. An X-Ray is ordered and if negative the urinary tract is considered normal. This is only starting the examination. We believe that anyone who has symptoms sufficient to warrant taking a roentgenogram should have a complete urological examination.

In conclusion we believe that more emphasis should be placed upon vesical irritation in those patients who have other vague symptoms pointing to kidneys. That more careful microscopical examinations of urine be made as a routine and any doubtful case should have a complete urological examination remembering the axiom of Kretschmer, that pus or blood in a catheterized specimen of urine, even if present in small amounts means real pathology somewhere in the urinary tract and demands a thorough investigation. If this is followed we shall detect many more cases of renal tuberculosis in its early stages.

THE TREATMENT OF FRACTURES OF THE HIP BY THE WHITMAN ABDUCTION METHOD.*

BY J. W. POWERS, M. D.,

MILWAUKEE.

The subject of the treatment of fractured hips is an old one and practically everything that I have to say to-day, has been said before. But, since the mortality is still so high and non-union and mal-union are so frequent a sequellae of these cases, I think these things will bear repeating.

One hundred years ago, Mr. Abernathy advocated in the treatment of fractured hips, "to place the patient in a feather bed on the injured side." He follows this advice with the remark that "if non-union takes place, the people will think we have done all that could be done, and that it was not the nature of the case to get well."

He established an apathy, one hundred years ago, that has been undisturbed to the present day.

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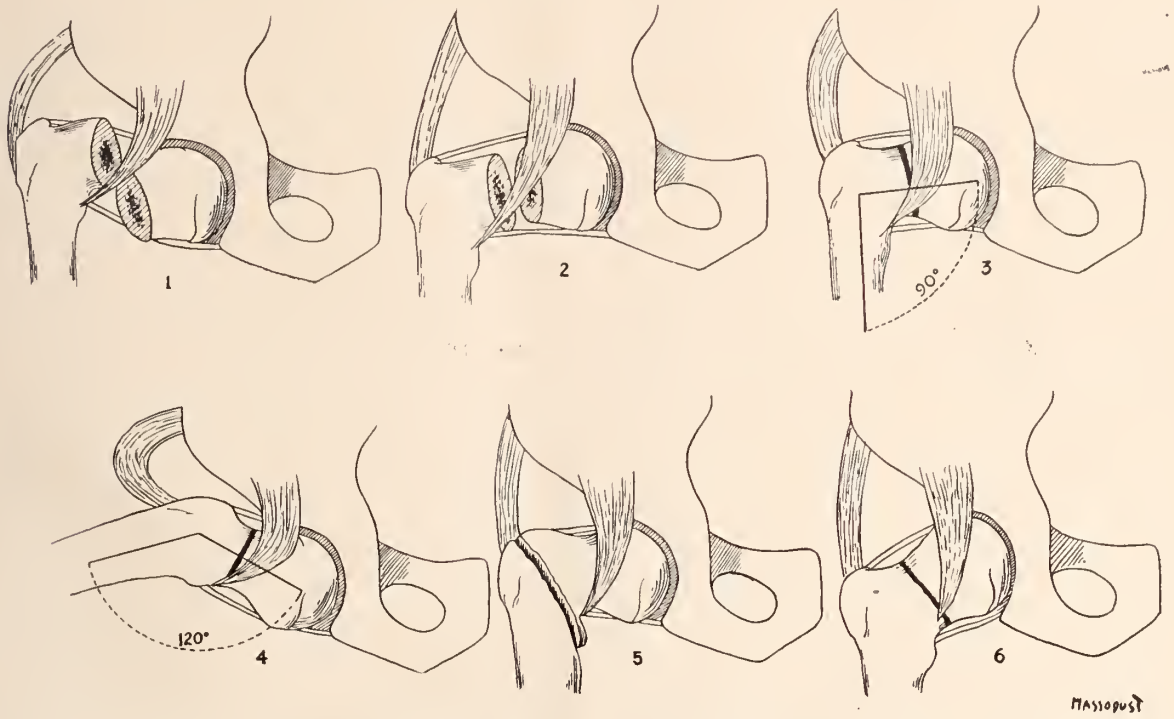
*Read before the State Medical Society of Wisconsin, Milwaukee, Sept. 8, 1921.

This is due in large part to the fact, that many writers of text books on surgery, in their discussions on the treatment of fractures, instead of analyzing results obtained from the various methods and making an effort to standardize the treatments of fractures on the basis of effectiveness, only, group them without giving special significance to those that are of signal and prime importance. Much of the matter published on fractures, in the text books, could be eliminated, as it is simply a repetition of old treatments, which both study and experience have proven to be ineffective. They lead both the student and the practitioner through a maze of misinformation and encourage them to continue the use of treatments that should have been obsolete years ago.

The treatment of Mr. Abernathy is still being used, with and without modifications, by extension by weights and pulleys, long lateral splint, wire mesh, etc., all with their attendant sequellae of pneumonia, bed sores, non-union, and short legs, and all because they were not based on sound surgical principles. In a report published by the British Fracture Commission, the results obtained in many hundreds of cases of fractured hips treated by these methods were reviewed. 23% of the cases were considered favorable results, many of these with some shortening of the leg. Walker, at Belleview Hospital, New York, gives 13% favorable results. Seutter, in the Massachusetts General Hospital, Boston gives 12% good results. Against these reports take that of W. C. Campbell, of Memphis: In 70 cases treated by the Whitman Abduction Method with 95% good results. Henderson of the Mayo clinic in some 200 cases gives better than 95% good results. Henderson, in another paper on the treatment of non-union in 120 cases, all had been treated by some traction method. I have treated 16* cases of fractured hip by the Whitman Abduction Method. Two cases were under 12 years, three over 70, and nine over 60. All are walking, but one, who has had a hemiplegia from apoplexy. All have union, and less than ¾ inch of shortening, no deaths, no pneumonia, which makes 93% good results.



The Whitman treatment is logical, based on sound surgical principles, and is not complicated. It utilizes the mechanics of the joint, to correct deformity and to fix the displaced fragments in apposition. The ease with which the patients being treated by this method can be moved about and their position changed is an insurance against pneumonia and bed-sores. They are comfortable

*Since writing this paper I have had 6 additional cases 3 of which were in patients 60 or over and 3 over 70 years of age. Good union in all and less than ¾ of an inch shortening.

and do not need the constant supervision that is necessary in those cases treated by any of the traction methods. It is adaptable to cases from infancy to old age. Whitman reports a span of 85 years between his youngest and oldest patient.

The objection has been raised that the danger of pneumonia is increased by the anesthetic incident to the Whitman method. In three of my cases reduction was accomplished by the use of morphine only.

The object desired in the treatment of every fracture, is the reduction of the deformity, satisfactory immobilization in the corrected position until union has occurred, and the restoration of function. The conventional traction methods are totally inadequate to meet this situation. Traction alone will not reduce the deformity in these fractures. The immobilization is not sufficient, non-union or mal-union usually occurs and consequently proper function is not restored.

In approaching a fractured hip we have the following conditions to deal with: after the fracture has occurred the long or outer fragment is pulled up by the Gluteii and is externally rotated by the Gluteus, Maximus, Pyriformis, Obturator, Internus, and Gemelli. The fractured surface of the inner or short fragment, faces forward and downward, due to the relaxed capsule and to pressure above it from the outer fragment of the fractured neck. See figure I.

The manipulations necessary for reduction by the Whitman Method are as follows, with the patient on a fracture table: first, flexion of the injured hip to free any fold of capsule that may be caught between the fragments. The uninjured leg is then measured, and the injured leg is drawn down to this length, while the operator lifts the trochanter to the normal plane. The uninjured leg is then abducted to the full limit, for the purpose of fixing the pelvis and of establishing the normal range of abduction. The injured leg is then internally rotated to bring the two fractured surfaces of the fragments together, and for the further purpose of tightening the external rotaters and posterior part of capsule in such manner as to form a firm support against angulation backward of the fragments. The injured leg is then abducted to its full normal range. This brings the great trochanter against the pelvis, relaxing the Gluteal muscles, which, if in contraction, favor deformity, and holding the outer fragment against upward displacement. See figures II, III, IV and VI. Abduction renders the entire capsule tense, bringing the fragments in firm contact, and re-establishes the proper angle between neck and shaft. See figures IV and VI. A long plaster spica is then applied from toes to axilla, to hold the leg in this position. This is allowed to remain for 3 months. The knee being liberated in 6 or 8 weeks. Impacted fractures are usually incomplete fractures and should be changed to complete by forcing the abduction and pressing down on the trachanter. If this is not done, shortening will occur, due to the loss of the normal angle between neck and shaft. See figures III, V and VI.

In conclusion: It seems to me that the Whitman Abduction Method fills the requirements of the treatment of fractured hips, of all types, and in all ages. That no other treatment meets these requirements. That the Whitman Abduction Treatment should be adopted as the standard treatment for fractured hips.

VINCENT'S ANGINA*

BY J. M. SEVERSON, M. D.,

ROCKFORD, ILL.

I wish to present some clinical observations, made during the World War of that interesting condition, known by such names as Vincent's Angina, ulcerative tonsilitis, trench mouth, pseudo-membranous angina, etc. Interesting to the medical profession, because it is so many, many times unrecognized by the nose and throat specialist, as well as the general practitioner. Interesting also because during the World War it rose from a rather rare disease in both Europe and America to one of a large percentage.

The following observations are based upon a series of one hundred and twenty-five cases that were admitted to our hospital in France. In the discussion of this disease, I shall confine myself to the angina of the mouth, and bronchi, although cases were reported from our genito-urinary department, in which the lesion occurred on the prepuce, involving the entire mucous membrane. Angina is a Latin word meaning to choke or suffocate, and I think should be applied to throat conditions only, otherwise the term might be rather misleading.

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*Read before the State Medical Society of Wisconsin, Milwaukee, Sept. 9, 1921.

History:

The first one to demonstrate the disease was Miller, a dentist, who in 1883 found the organisms in normal mouths, as well as in cases of neglected teeth; although there are vague reports of the disease as far back as 1879. Rauchfus reported them in several membranous angina cases, found among poorly, undernourished children, of Petrograd institutions. Babes found them in gums of scurvy. Plaut reported them in 1894, but it was not until 1896 when Vincent did more research and original work, and it was he who wrote the first real worth while article on the subject. His name is consequently noted in all text-books relating to this disease.

Etiology:

The predisposing factors of the disease, are such as, oral uncleanliness, different individuals using the same pipe or tooth brush, excessive smoking, which according to Vincent is the most frequent indirect cause of the disease. Low resistance, close association, unhygienic surroundings, especially common among soldiers, and especially more so among some of the European armies. In fact about ten per cent more. It is common during youth, although it may occur in the old, it affects either sex, and often breaks out in epidemics. During the war one of the worst sore throat epidemics broke out in Paris, which were mostly all cases of Vincent's Angina. This epidemic occurred as an aftermath of the celebration of Armistice Day. It was frequently spoken of rather unscientifically, as Madamoiselle sore throat, showing how contagious it usually can be.

The direct cause of the disease is Vincent's fusiform bacilli and spirilla. There seems to be various conclusions as to this by various observers, but the fact that the predominating number and constant appearance of the organisms in the lesions, lends support to the general consensus of opinion, that this is a primary disease and not a secondary infection.

The bacillus fusiformis is a sharp, double pointed organism, slightly curved, five to ten microns long, thick in the middle, usually appears to have two separate bands across the center, almost resembling two prisms with bases together. It is non-motile, anaerobic, Gram negative, and stains with the aniline dyes.

The spirilla are five to eight microns long, and is always associated with the bacilli. It is not unlike the spirocheata pallida, but has fewer twists, with wider spirals. Under dark field illumination its movements are much more rapid. It stains with the aniline dyes, especially carbofuchsin.

Both the organism can be grown on artificial culture media, preferably blood serum or agar-agar, under anaerobic conditions however. A fairly successful way among the War laboratories, was to make a stab into an agar-agar media, and cover the top over with sterile liquid petrolatum. The morphology of the bacilli fusiformis is at present a mystery to a good many observers. In 1911 Ruth Tunicliff grew the organism under anaerobic conditions, on transfer to blood serum at room temperature, she noted that the bacilli always developed first in the cultures. The bacilli became filamentous, and appears like spirochoeta. Krumweide and Pratt take issue with Tunicliff, and after exhaustive study, claim the fusiform bacilli and spirilla are two separate organisms. So far animal experimentation has proved rather inconclusive. The organism has a large distribution in the body, having been found in such lesions as hip abscess, lung abscess, suppurative otitis media, abscess of the spleen and liver, and in cases of pyorrhea alveolaris.

Symptoms:

In most of the cases that I observed, the following symptoms were usually the rule. To begin with, the patient did not seem very ill, and constitutional symptoms were at times rather obscure. Fever usually 101-102, rarely above that. A heavy, decidedly offensive breath, enlargement of the cervical glands, bleeding of the gums, on the slightest pressure, an ulcerous condition of either tonsil, or both, covered by a thick grayish membrane.

The subjective symptoms were usually, a very bad taste in the mouth, mastication painful, dysphagia, anorexia, malaise, lassitude, and looseness of the teeth.

Two types are usually recognized, one closely resembling diphtheria, and the other syphilis with its ulcerous manifestations. The first, with its grayish, dirty membrane covering the tonsils, pillars or palate, even extending down into the bronchi along the pharynx. The second type, with its small discrete ulcers, with normal tissue intervening, and resembling the syphilitic ulcer or mucous patch. The symptoms of the bronchial

form are the same as the diphtheroid, except with a great deal more dysphagia, and that the patient will cough up regular casts of the bronchi.

Of three fatalities which occurred in my series of cases, I briefly wish to report one. It shows how very quickly a complication can set in and end rather unfortunately for the patient. J. J. S. colored, soldier, 816 Pioneer Infantry, admitted to the hospital on Jan. 21, 1919. For about five days previous he had complained of headache, malaise, loss of appetite, some slight pain on swallowing. The regimental surgeon took the usual precaution against diphtheria, took a culture, and gave antitoxin. The soldier kept getting worse. On admittance a smear from the tonsils was made, showing a vast number of Vincent's angina organisms present. Present on both tonsils were two large ulcerous lesions, extending over the pillars and into the buccal membrane of the right cheek, also along the right lower jaw. Temperature 101. An intravenous solution of 0.6 gm. salvarsan was immediately given. Late in the afternoon the patient complained of an increasing soreness along the right lower jaw. On Jan. 22 the patient was slightly worse, and the pain in the jaw more localized. A tentative diagnosis of acute osteomyelitis was made and operation decided upon. The operation revealed an acute osteomyelitis. A smear showed Vincent's organisms. On Jan. 23 the patient was no better and began to get drowsy. At four o'clock in the afternoon he sank into a very deep coma and died an hour later. Postmortem findings showed an acute osteomyelitis of the jaw, and an abscess in both the spleen and liver. A smear from these abscesses showed the Vincent's Angina organisms.

Pathology:

The lesion of Vincent's Angina consists of a necrosis of the superficial tissue, which forms a pseudo-membrane, covering a well defined ulceration. The membrane is of a pultaceous granular consistency. It is easily removed, and leaves a bleeding surface underneath. It reforms very quickly. In the pseudo-membranous or diphtheroid form, the ulcerations are superficial, and healing occurs without any scar formation. In the ulcerative type, the necrosis is deep and scar formation is usually the rule. The fusiform bacilli and spirilla are always present in enormous numbers.

Diagnosis:

The old saying that on the diagnosis depends the treatment, especially holds true here also. One reason that Vincent's Angina is so often called diphtheria or syphilis, is because of a time worn habit, that we always take a culture, and pay very little attention to a smear direct from the lesion. The latter is the only way we can diagnosticate this disease, and be absolutely sure that we have made a correct diagnosis. The organism are anaerobic, and if grown under aerobic conditions like diphtheria organisms, one would naturally assume the culture to be negative. Of course cases have occurred where diphtheria organisms are present, a culture under aerobic conditions is then tried. A smear is then of paramount importance, and should be our first step after obtaining the patient's history. Usually one sees a whitish or grayish dirty membrane covering one or both tonsils. The membrane may extend over the pillars and down into the pharynx. The membrane comes off easily, and leaves a bleeding surface. The breath is foul, dysphagia present, temperature 101 to 102. Cervical glands enlarged. Laboratory findings show a transient albuminuria, blood culture negative, a smear positive to Vincent's angina organisms.

Three conditions which the physician is liable to mistake the disease for are syphilis, tuberculosis and diphtheria, of the throat.

Syphilis:

It is relatively painless, sudden origin, and rapid course, presents a purplish edge, hard indurated deep punched out sides. Wassermann positive, which you will often find in Vincent's angina also. Improvement with anti-syphilitic treatment.

Tuberculosis:

Very painful, insidious origin, slow course, smooth edges, and surrounding mucosa, pale shelving sides, base gray, no induration, no syphilitic stigmata, syphilitic treatment of no avail.

Diphtheria:

Membrane is gray or whitish, is detached in flakes, ulcer with bleeding surface, covers more of fauces. Positive smear of Klebs-Loeffler bacilli. Improvement with antitoxin.

Prognosis:

Usually the disease clears up in two to three days in the diphtheroid form. In the ulcerative

type the disease may extend to eight or ten days. We may run into various complications, such as an intense adenitis of the cervical glands, endocarditis, otitis media, empyemia, pleurisy, pyorrhea alveolaris, gastro, enteritis, ulceration of the pharynx, with perforation of the carotid artery. Recurrances are common, especially among individuals having enlarged tonsils and carious teeth.

Treatment:

Like every other disease there has to be a certain amount of therapeutic experimentation before any definite specific drug can be relied upon. I believe that we are still in that stage in dealing with this trouble, but I also believe that we have about found a drug which is a specific. During the war more progress was made toward this end than ever before. At the present time Vincent is using a 6% solution of iodine, with which he reports excellent results. Drugs which other observers are using are: trichloracetic acid 10%; silver nitrate 5 to 10%, although I think that this is not strong enough, and believe that you will find much more satisfaction in using a 50% solution. Trikresol 5%, lysoform, and hydrogen peroxide are used extensively by the English. Liquor potassi arsenitis swabbed on the throat with glycerine 1:500 perchloride of mercury is also advised, but I think should not be used in conditions where syphilis is present also. The local lesion seems to be very much aggravated by it. Chromic acid is, I think a little bit too heroic for most patients to stand very well. Sodium cacodylate in 2½ to 5 grain doses, repeated in twenty-four to forty-eight hours, especially in stubborn cases, is highly advocated by P. Hubbard in the Laryngoscope, Oct. 1917. With this I have had no experience.

During the years of 1917 and 1918 the French were using salvarsan and neosalvarsan in the treatment of these cases. The fact that salvarsan seems to have a specific action on the spirochaete group in general led several more observers to use it. Especially, those who had access to a large amount of clinical material. I used salvarsan and neosalvarsan both intravenously and locally, and feel highly elated with the results. In practically my entire 125 cases I used salvarsan and methylene blue alternately. Salvarsan in ten percent strength, and methylene blue in an aquous solution of ten grains to the ounce. Intravenously I used 0.6 gm. and repeated it in forty-eight hours if necessary. Only in severe cases did I resort to this. My method consisted in applying ten percent cocain to the lesion, and then thoroughly removing the membrane with a sharp currette. A ten percent aquous solution of salvarsan was then applied to the lesion. A warm hydrogen peroxide solution as a gargle was given for use between treatments. The following day I alternated with methylene blue, using ten grains to an ounce of water. The patient was given two treatments a day. A good dose of calomel and epsom salts were given at the commencement of the treatments. Usually the membrane began to melt away the first day, and seldom extended beyond the third or fourth day. I also treated the opposite tonsil regardless of its involvement, so as to prevent any recurrence. I always removed the tonsils following the recovery of the patient, the safest way, I believe, of preventing a reinfection.

I do not profess to have discovered anything new in the use of salvarsan. It is merely the extensive use of this drug in a series of cases to determine its real worth. I believe much work can still be done on the therapeutics and bacteriology of this disease, but I believe that we have learned more during the world war in checking this disease, than ever before, and I hope that my colleagues will give this drug a real trial, as it is by experimentation only that medicine can make any progress.

A FEW OBSERVATIONS OF MALARIA IN IN FANCY.

W. A. Mulherin and F. X. Mulherin, Augusta, Ga. (*Journal A. M. A.*, June 17, 1922), state that malaria presents a different clinical picture in infancy and up to 3 years of age from that seen in the adult. The younger the patient, the more decided is the difference. Periodicity in subjective and objective symptoms is more frequently absent than present. Fever is oftener remittent, irregularly intermittent or absent, than regularly intermittent. Enlargement of the spleen is absent in fully 30 per cent of cases of malaria in infancy. Sterilization with standard treatment of more than 90 per cent of malaria cases, they believe to be questionable. Ultrascientific treatment of malaria, "no malaria parasites found in the blood, no quinin to be given," is wrong in principle and in practice.

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EDITORIALS

SEVENTY-SIXTH ANNUAL MEETING STATE MEDICAL SOCIETY OF WISCONSIN GREEN LAKE

SEPTEMBER 6, 7, 8, 1922.

The 1922 meeting of the State Medical Society of Wisconsin will eclipse in scientific interest, pleasure and entertainment any previous meeting of the Organization. Never has the Society presented to its members so pretentious and important a program, and it is anticipated an attendance of five to six hundred will be on hand Wednesday morning to stay through until Friday night. It will give the busy Wisconsin physician an outing at Wisconsin's finest summer resort, an opportunity for out-of-door recreation with golf, swimming, fishing and boating, and a scientific program—each paper so important in itself, that no medical man can afford to miss a single part.

A Glimpse of the Lake.

HOTELS.

The hotel accommodations are ample, but it is always advisable that reservations be made in advance. The rate agreed upon by the arrangement committee is five dollars per day (American plan) for two persons in one room, or seven dollars per day for one person in a room. Children under six years, half rate. These rates include meals, and for those who wish to prolong their stay over the week-end, the same low rates will be granted.

The larger hotels are listed below, and several smaller hotels offer accommodations for any who are unable to secure reservations from the following:

Sherwood Forest Hotel—120 rooms.
The Oakwood Hotel—300 rooms.
Maplewood Hotel—50 rooms.
Lakeview Hotel—15 rooms.

TRANSPORTATION.

Green Lake can be reached via the Chicago Northwestern Railway. Probably the majority of our members will want to drive to Green Lake, which is located on State trunk highway No. 23. The roads are in spendid condition in any direction, and ample parking facilities, with a night watchman will be provided.

GREEN LAKE

Green Lake is undoubtedly Wisconsin's finest lake resort. It is one of the deepest lakes of its size in the State, is from two to three miles wide and ten miles long. Its shore line is studded with attractive residences, and is edged by some of the most entrancing scenery. The dense foliage of its shore line forms a very fit setting for the beautiful green water which gives rise to its name.

Oakwood Hotel and Cottages.

Trains leave for Green Lake:

Chicago	2 A. M.	3 P. M.
Milwaukee	7:40 A. M.	5:10 P. M.
Fond du Lac.....	10:10 A. M.	7:10 P. M.
Marshfield	4:25 A. M.	1:00 P. M.

AUTO ROUTES.

From Chicago:

Sheridan Road to Milwaukee. State Highway No. 15 from Milwaukee to Fond du Lac and No. 23 from Fond du Lac to Green Lake.

From Oshkosh:

State Highway No. 91 to Ripon and No. 23 from Ripon to Green Lake.

From Madison:

State Highway No. 19 to Sun Prairie, No. 31 through Columbus, Beaver Dam, to Waupun and No. 49 from Waupun to Ripon. and No. 23 from Ripon to Green Lake.

From Marshfield:

State Highway No. 13 through Wisconsin Rapids to Wautoma, and No. 21 from Wautoma to Auroraville, and No. 49 through Berlin to Green Lake.

The cool green waters of Green Lake abound with pickerel, bass and perch, and if you own a fishing outfit be sure to bring it with you. If you don't, boats, guides and all paraphernalia can be rented.

The bathing in Green Lake is delightful. In clear, green waters, good beaches with long gradual slopes afford delightful bathing facilities where children as well as grown folks may frolic without fear.

Sail, row and motor boats may be rented by the hour, day or week at a reasonable cost, and large steamers make hourly trips about the Lake.

ENTERTAINMENT.

Wednesday evening a smoker will be held on the lawn at the Oakwood Hotel. Professional entertainers have been engaged and at great expense the arrangement committee has engaged the services of Dr. Charles S. Sheldon of Madison and his famous "Saw-Bones Choir." There will also be dancing in the Pavilion.

Thursday evening the Norton Brothers of Green Lake will put on one of their famous "Fish-

Frys" at Sherwood Forest. A real picnic affair, with program to go with it, and dancing—old and new-fashioned—in the Sherwood Forest Pavilion.

In addition to the above, physicians so minded, and their families, have available at all times all of the recreation features afforded by the Lake.

GOLF.

If beauty of courses, fascination of effects and their surrounding scenery mean anything to the game of golf, then Green Lake has every reason to boast of the Tuscumbia Country Club. Landscape gardening of the eighteen hole course is certainly fine—experts have pronounced it perfect in design. All members of the Society and their friends are welcome to use the course throughout the meeting.

Friday afternoon will be given to the First Annual Physicians' Golf Tournament. It is very necessary that each and every player who wishes to take part in the tournament, send in his "Par" and "Handicap" at his home grounds, so those who enter can be classified and paired. Bring your golf sticks with you and write Dr. C. U. Senn, Ripon, Wisconsin, entering your name for the tournament.

PLACES OF MEETING.

The House of Delegates will meet at the Oakwood Hotel Pavilion. All Scientific Meetings will be held in Thrasher's Opera House, which is in the village of Green Lake and about one-half mile from the hotels. The Commercial Exhibits and Registration desk will be found in Thrasher's dance hall, which is across the street from the Opera House. The Smoker, Wednesday evening, will be held at the Oakwood Hotel and the Fish-Fry, Thursday evening, at Sherwood Forest. A ladies' card party Wednesday afternoon will be held at Sherwood Forest Pavilion.

PUBLIC MEETING.

On Wednesday evening a public meeting will be held for the people of Green Lake and surrounding cities, which will be in the nature of a model motion picture entertainment on public health subjects.

This is furnished by the Extension Division of the University of Wisconsin and covers four reels on "The Gift of Life," one reel on "Prevention of Blindness," and one reel on "Child Hygiene." This public meeting is given in order that officers of county medical societies, and visiting physicians may be able to judge of the desirability of holding similar meetings in their own localities, and it is really presented as a "sample" program.

HOUSE OF DELEGATES.

The House of Delegates will meet earlier this year than usual, as the scientific program is so

long and of such interest that delegates undoubtedly will be unwilling to miss the program by attending sessions of the House.

The first meeting of the House of Delegates will be called to order at 2:30 P. M., Tuesday, September 5, at the pavilion at the Oakwood Hotel, and continue on with an evening session after supper.

It is hoped that in this way the business of the House can be transacted on the day preceding the general session, giving Delegates an opportunity to hear all the papers.

SCIENTIFIC PROGRAM.

Doctor F. Gregory Connell, Chairman of the Program Committee, is to be congratulated on having arranged what is without question the most appealing program ever presented before the State Society.

The first day is given over to general papers, but they are of such interest that few will want to miss them. An opportunity to hear Doctor Walter E. Dandy of Johns Hopkins University should alone draw a full attendance.

The last two days are given over entirely to a discussion of "The Challenge of the Chronic Patient to the Medical Profession." Twenty men of national prominence from outside the State will present this program. The subject was selected partly because of the great reproach which chronic medicine represents to our profession, and partly that the subject might be discussed with such breadth, that a better understanding of chronic medicine might be reached, or that a more determined effort might be made. Another reason for the selection of the subject is the appeal for relief that has come from the great number of patients afflicted with chronic diseases, and with the consciousness that many of these sufferers are turning away from our own profession to irregular practitioners or members of various cults, for such relief as is possible. Surely no progressive Wisconsin physician can fail in a realization of the importance of this subject and the necessity of his attendance through the entire session.

PROGRAM

Tuesday, September Fifth,
2:30 P. M. and 8 P. M.

House of Delegates, Oakwood Hotel Pavilion.

Wednesday, September Sixth,
9:00 A. M.

1. "An Unusual Fetal Monstrosity," Miles H. Clark, Ripon.
2. "The Present Status of Infant Feeding with the Butter-Flour Mixture of Czerny-Kleinschmitt," A. B. Schwartz, Milwaukee.

3. "Diverticulum of the Stomach with Review of Literature and Report of a Case," Eugene Tupper, Eau Claire.

4. "Myocardial Degeneration from a Surgical Standpoint," J. L. Yates, Milwaukee.

5. "Simple Goiter as Noted in the Examination of 1425 Students," J. Gurney Taylor, Milwaukee.

1:30 P. M.

6. Address of the President, Sidney S. Hall, Ripon.

7. "Early Diagnosis and Treatment of Tumors of the Brain," Walter E. Dandy, Johns Hopkins University, Baltimore, Md.

8. "Pneumoperitoneum," Roland S. Cron, University of Michigan, Ann Arbor, Mich.

Thursday, September Seventh

Subject—"The Challenge of the Chronic Patient."

8:30 A. M.

12. "The Effect of Anti-Syphilitic Treatment on the Kidney," W. F. Lorenz and W. J. Bleckween, University of Wisconsin, Madison.

13. "The Challenge of the Chronic Patient to the Patient," Boyd S. Gardner, Rochester, Minn.

14. "The Relationship of the *Mouth* to the Chronic Patient," Frederick B. Moorehead, University of Illinois, Chicago.

15. "Relationship of the *Tonsil* to the Chronic Patient," Norval Pierce, University of Illinois, Chicago, Ill.

16. "Relationship of the *Goiter* to the Chronic Patient," Harry G. Sloan, Cleveland, Ohio.

9. "Radium," Arthur H. Curtis, Northwestern University, Chicago, Ill.

10. "Short Wave Length Radiation of Deep Seated Lesions," Benj. H. Orndoff, Loyola University, Chicago, Ill.

11. "Cancer," Carl Davis, University of Chicago, Chicago, Ill.

17. "Relationship of the *Lung — Tubercular* to the Chronic Patient," W. H. Swan, Colorado Springs, Colo.

18. "Relationship of the *Lung—Non-Tubercular* to the Chronic Patient," Frederick Tice, University of Illinois, Chicago, Ill.

1:30 P. M.

19. "Relationship of *Cardiovascular-Renal Disease* to the Chronic Patient," Arthur R. Elliott, Postgraduate Medical School, Chicago, Ill.

20. "Relationship of *Abdominal Symptoms* to the Chronic Patient," John A. Lichty, University of Pittsburgh, Pittsburgh, Penn.

21. "Relationship of the *Surgical Abdomen* to the Chronic Patient," Edmund Andrews, Chicago, Ill.

22. "Relationship of *Women's Diseases* to the Chronic Patient," Carey Culbertson, University of Chicago, Chicago, Ill.

23. "Relationship of *Genito-Urinary Diseases* to the Chronic Patient," B. C. Corbus, Chicago, Ill.

24. "Relationship of *Children's Diseases* to the Chronic Patient," H. F. Helmholz, Rochester, Minn.

25. "Relationship of *Endocrinology* to the Chronic Patient," A. J. Carlson, University of Chicago, Chicago, Ill.

Friday, September Eighth.

8:30 A. M.

26. "Relationship of *Traumatism* to the Chronic Patient," C. W. Hopkins, Chicago, Ill.

27. "Relationship of *Diseases of the Nervous System* to the Chronic Patient," Hugh T. Patrick, Northwestern University, Chicago, Ill.

28. "Relationship of the *Heart* to the Chronic Patient," Robert H. Babcock, University of Illinois, Chicago, Ill.

29. "The Relationship of the *Alimentary Tract Disease* to the Chronic Patient." Frank Smithies, University of Illinois, Chicago.

30. "Relationship of *Syphilis* to the Chronic Patient," Wm. Allen Pusey, University of Illinois, Chicago, Ill.

31. "Relationship of *Fatigue* to the Chronic Patient," Edward H. Ochsner, Chicago, Ill.

32. "Relationship of *Public Health* to the Chronic Patient," M. P. Ravenel, University of Missouri, Columbus, Mo.

2:00 P. M.

First Annual Physicians' Golf Tournament, Tuscumbia County Club.
Boat Rides—Fishing—Swimming.

AS OTHERS SEE US

(*Editorials from the Lay Press*)

THE COUNTRY DOCTOR.

In rural districts the medical profession is not properly represented. Thirty years ago there were two or three doctors in every township in the thickly settled states. Now there is about one to every three townships. One doctor to a township six miles square cannot answer emergency calls. This is a serious condition, so serious that in New York state the biggest organization of the farmers, the Grange, proposes the erection of a hospital and a home for a physician in every community.

Medical service is a necessity of life, and if the exodus of doctors from country to town and city continues, it is only a matter of time until the government will have to provide doctors, as the New York Grange proposes. The reason for the exodus is plain. Country practice is hard. Collections are difficult. Financial rewards are small. In the cities, on the contrary, physicians do well. They get adequate fees and have good streets to travel on when called by patients. A survey of the earnings of physicians in large towns, many villages, and the cities, would, we doubt not, show the profession abundantly prosperous as a whole. They have learned to provide for their future, in marked contrast to the old-time doctors who as an exchange enthusiastically avers, "have done more to ennoble their profession and make it useful to humanity than all the illustrious specialists put together."

This may be truth or error. But the country has not paid enough for its medical service to hold it. The old-time country doctor wore himself out for a mere living, treated innumerable cases for nothing, and was often imposed upon by his patients. That is why the present generation of medical men has been abandoning rural life.—*Chicago Journal of Commerce.*

SMACK THE QUACK.

One of the greatest services that the extension of the tuberculosis movement has rendered to the general public is the provision of reliable facilities for the diagnosis and treatment of tuberculosis. The extension of such agencies not only serves to give immediate care to the suffering tuberculosis patient, but also serves to eliminate more and more the fake tuberculosis cure promoter and the quack who trades upon the gullibility of the sick.

There is still much room for improvement in smiting quackery. "The quack," as the New York Tribune says, "knowing human aversion to pain and human gullibility, exploits his fellow creatures by selling a cure-all. When men believed in evil spirits he marketed incantations; when medicaments came into use his herbs were sure cures, and in these later days he specializes on psychology, or laying on of hands, or blue glass, or cold water, or bone manipulation. Though his prescriptions are altered to meet new conditions, he always has a panacea to dangle before the credulous."

State legislatures and the federal government have repeatedly attacked quack activities of financial promoters who are selling "blue sky" and other non-existent properties for fancy prices. No one can object to the zeal of the government in protecting property in this way. It is high time, however, that the government takes the same active interest in protecting life. Tampering with a man's pocketbook on the part of a financial fake produces painful results, but they can be remedied. Tampering with a man's health by a similar charlatan produces results that can never be remedied.

One might paraphrase an old quotation thus: "He who steals my purse steals trash; but he who steals my health takes that which no money can restore."—*Journal of the Out-Door Life.*

THE FUNDUS CHANGES IN NEPHRITIS

Examination of a considerable number of cases has convinced Joseph L. Behan, Brooklyn (*Journal A. M. A.*, June 10, 1922), that the eye is no index to kidney damage in the sense used by Moscheowitz. Sclerosis of the retinal vessels represents the evidence of nature's defense, rather than a causative factor in the production of retinitis. The cause of the kidney pathology is the cause of the eye change. The ocular pathology does not exist because of the kidney change any more than the nephritis is the result of the eye change.

THE JOURNAL CLINIC

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ULCERATING INFECTIOUS GRANULOMA*

BY BENJ. H. SCHLOMOVITZ, M. S., M. D.,

MILWAUKEE.

This is a report of a case of a cutaneous ulcer which was of interest from three viewpoints. Firstly, because of a possible metabolic disturbance as the basis of its chronicity; secondly, because of the localized and extensive destruction of tissue following an ordinary operative procedure; and thirdly, because of the persistent progressiveness of the lesion in spite of a period of treatment extending for more than three years.

W. A., age 21, woman, single, housekeeper, was referred to the writer in October, 1921. In February, 1919, she underwent an operation in Chicago for the removal of a chronic appendix. The stitches were removed in twelve days. Three days later, the wound opened up, became painful, and there was discharge of pus. She remained in the hospital for three months with the stitch abcess still persisting. At home, wet and dry dressings were applied, but no healing took place. A wide exploratory operation was then done on the assumption that some foreign body might be the irritating cause. None was found. Since then and up to October, 1921, she had a large, diffuse, discharging area covering the right lower quadrant of the abdomen when first seen by the writer. In the interim 1919-1921 she had received the following various types of therapy:—moist dressings, dry dressings with dusting powders, adhesive binders, X-rays, infrequent exposure to the sun's rays, cauterization, and occasional excision of portions of the ulcer.

In October, 1921, she had an ulcerating discharging surface with an approximate area of 35 to 40 square inches. The photograph (Fig. 2) shows its extent very clearly. The family history was negative for malignancy, tuberculosis, or syphilis, with the exception of the mother who was a diabetic. A modified Newburgh-Marsh treatment made the mother sugar-free in a few days. The patient had negative findings for urine, blood-sugar, physical examination, adenopathy, and sex history. The Wasserman was repeatedly negative in the last three years. Her bodyweight was 124 lbs. The white blood cell count was normal, polynuclears forming 74 per cent of the total.

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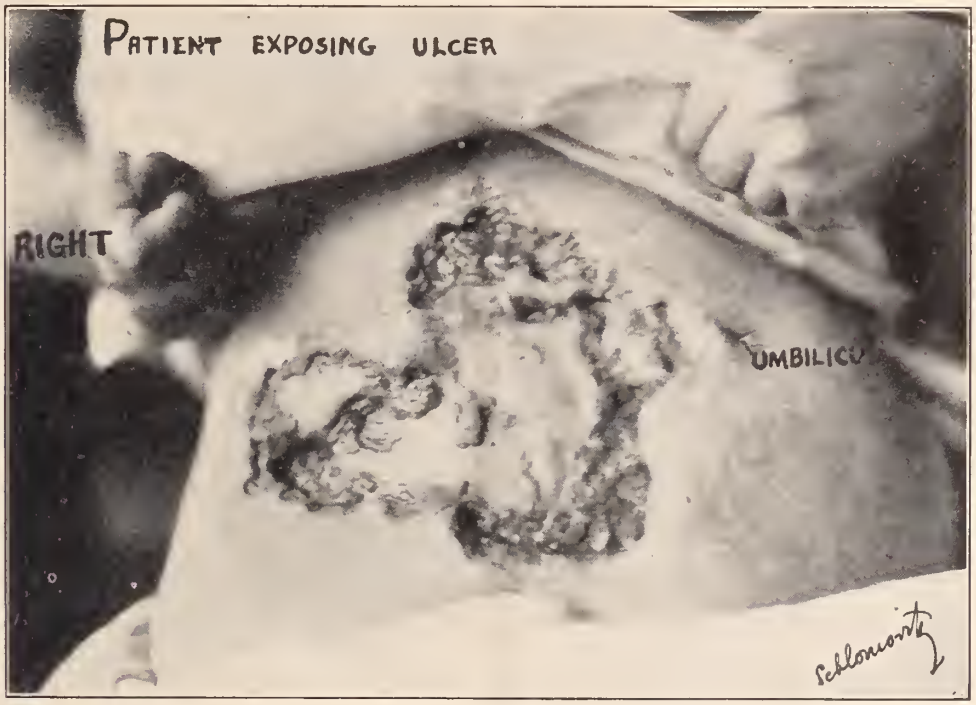
*Presented before Milwaukee Academy of Medicine, April 25, 1922.

A thick, creamy-like pus filled all portions of a deep, irregular ulcer, containing three fistulous tracts, each large enough to admit a thumb. The base contained dirty grey granulation tissue and was soft and ragged. In some places the granulation tissue had an apple-jelly like color. The border was purplish tinged, had a mouse-eaten appearance, markedly irregular, undermined and flat, with cordlike, indurated, discolored subcutaneous masses extending peripherally. There was hypertrophic tissue. Repeated bacteriological examinations in the last three years and with the aid of special culture media showed the presence of the usual skin types with a diplococcus predominating. No mycotic organism could be demonstrated. Dr. Witte and the writer excised some of the tissue. The pathologic histology of this tissue could be applied to a chronic tuberculous or granulomatous process. A guinea pig inoculated with a few drops of the pus died of a generalized tuberculosis.



In the differential diagnosis the following disorders were considered:—syphilis, lupus vulgaris, ulcerating infectious granuloma, blastomycosis, actinomycosis, sporotrichosis, pyogenic infection, glanders, epithelioma, rodentu ulcer and oriental sore. The consensus of opinion indicated that this ulcer partook of characteristics found in both lupus vulgaris and ulcerating infectious granuloma[1].

The patient was then sent to a dermatologist who advised excision. This procedure was discountenanced by the patient, Dr. Witte and the writer because previous excisions had been ineffective.

The following therapeutic procedure was initiated on Nov. 2, 1921. 1. Local washing of area surrounding ulcer with tincture of green soap, followed by ammoniated mercury ointment. Exposure of the entire surface to the ultra violet rays. Extensive areas elsewhere on the body were also exposed. An interesting review on the physiological action of light was recently written by Janet H. Clark[2].

2. For the secondary infection—sterile dressings, exposure of lesion to dry, warm air and sunlight, and irrigation with antiseptic solutions which were varied from time to time depending upon the reaction. These included boracic acid, salt, sodium bicarbonate, acetic acid, mercuric chloride, copper sulphate, potassium permanganate, mercurochrome, and Dakin's solution. It was finally decided to use only 1 to 4 per cent boric acid, salt, or Dakin's. At night a dusting powder of bismuth subgallate or boric acid was used. The patient's wound was irrigated at first every two to three hours from 6 A. M. until 12 P. M.

For the fistulous tracts, Taylor's tidal irrigator[3] proved to be very effective. This apparatus exerted suction on the tissues and rapidly closed up the openings.

For persistent small pus openings and cord-like indurations a 4 per cent silver nitrate was used. If this did not avail then a mercuric nitrate solution was applied.

The newly formed tissue tore apart occasionally and an ordinary 5 per cent argyrol solution was applied daily. The apertures were rapidly filled up.

3. Internal medication—Cod liver oil phosphorized or with malt was taken for 6 months. Fowler's and a saturated solution of sodium iodide were given, but never simultaneously. The iodide was administered at the very start in doses up to 285 grains per day. The tachycardia which developed quickly subsided on removal of the drug.

4. Diet and hygiene—The patient took a nap after lunch and remained in bed practically throughout the period. Emphasis was placed upon eggs, milk, high fat diets, fresh air and sunlight. Her bodyweight increased from 124 to 152 pounds, and her hemoglobin rose from 80 to 100 per cent.

On May 18, 1922, the patient was discharged, with the lesion covered over completely by firm tissue, partly cicatricial and partly normal in appearance. In some portions there was an imperceptible transition from originally uninfected tissue to previously infected areas. In other limited portions a glazed pink ridge developed at the border of the lesion. In still other places remnants of the reddened undermined border were gradually disappearing. For the first time in three and one-fourth years the patient has no pus in the area and feels free to do as she pleases.

The author here takes the opportunity to thank Dr. Louis M. Warfield and Dr. Harry Foerster for their kind suggestions.

[1]Ormsby: Diseases of Skin. 1st Ed. p. 853.

[2]Clark: Physiological Reviews, II. 1922, p. 277.

[3]Taylor: J. A. M. A., 74. 1920, p. 1700; 77, 1921, p. 1393.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

TYPHOID IN MILK.

BY H. M. GUILFORD, M. D.

STATE BOARD OF HEALTH.

It has long been known that typhoid fever is sometimes spread through the medium of milk. With the purification of water supplies and the consequent drop in mortality, the question of milk as a bearer of typhoid stands more in the foreground, and assumes greater prominence because of its relatively increased proportions.

Undoubtedly, a considerable fraction of typhoid in the cities was once due to impure milk supplies. In these cities the problem has been at times to get enough milk at a reasonable price to supply the populace. It thus happens that the middleman assumes predominance and the milk train brings supplies from long distances. It can readily be imagined what time and distance and multitudinous handling and mixing from various sources have on milk especially in warm weather.

The methods of handling milk in large communities have in this country very generally undergone a decided change in the last fifteen years or later, but before that time primitive methods still prevailed. The cry on the part of the public was for good rich milk without any water in it and bacteria were out of sight and out of mind, and the writer has been witness to the fact that grave sanitary abuses often existed.

Pasteurization and inspection have supervened and there is a vast improvement in the bacterial quality of milk. In its beginnings pasteurization was an effort by big handlers to so purify milk as to cause it to keep and not be spoilable before delivery, as much as it was a coincidental sanitary problem. The communicable disease end of it has lately been more stressed than the other cause.

Milk is capable of being infected by a certain pathogenic bacteria more than any food which we possess. It does not simply carry them but it multiplies them out abundantly if at all warm and that in a short time. The reasons are plain, because the natural condition in which human pathogenic bacteria exist are to be found in warm milk. The bacteria in the substance of milk are beyond the action of sunlight; they have material on which to grow; and when freshly drawn from the cow, milk has a temperature not far from the human body temperature. Besides there is a fluid condition in which they are dispersed away from their toxic products. The multiplication of the lactic acid bacteria normally present are an indication of what happens to certain disease bacteria when once introduced into milk. The chief way in preventing these bacteria from multiplying is to immediately cool or ice the milk. If the temperature goes below fifty the multiplication is little and that is the reason milkmen under modern conditions of inspection are required to immediately bring their milk to a low thermal point and keep it there until delivered.

The chances of infection of milk are in proportion to the chances of foreign substances in the way of human secretions getting into it, and proper methods on the farm and proper carriage to the market produce much better milk than is obtained in those communities where old methods prevail.

The typhoid bacillus gets in to milk in various ways. It may be from the milker who gets his hands over the edge of a pail or gets milk upon

his fingers in the process of milking. Sometimes it is from a member of the household who strains or otherwise cares for the milk. There are possibilities from the intermediary person who places his hands over the cap and infects the edge of the bottle; or from the capper who jams caps into a filled bottle without a capping instrument. It also may be from infected water in washing pails and lack of sterilization of them afterwards. One epidemic arose a few years ago by immersing bottles of pasteurized milk in a cooling tank so that the caps were flooded with contaminated water, but as a usual thing contamination takes place at the source, either through the milker or a member of the household and more often so because the element of warm milk is present.

The typhoid carrier is very often the cause of a milk outbreak. Various statements have been made as to the number of chronic carriers developing after typhoid, but an estimate of three per cent is a usual one. In a recent court case, in a nearby state, involving the quarantine of an obstinate carrier, the defendant stated she had never had typhoid, yet a stool test showed the bacillus typhosus present and it was stated she had infected a number of persons. Some of these personages have been carriers for a great many years. One that was under suspicion in this state recently said that she had had typhoid fever twenty-five years ago, yet evidence pointed to her as to the cause of some cases using milk from her dairy. Many instances show persons to have been carriers for a much longer period than this.

The acute case upon the farm is likely to be a carrier for some weeks after recovery, and should be kept away from a milk supply until the stools are negative to test and precautions in handling milk be thoroughly instilled in such person after this. One of the great difficulties in determining chronic carriers is because of the fact that the excretion of typhoid bacilli are often intermittent and a stool test does not always show such a person to harbor typhoid. The Widel test as a preliminary can be resorted to and it is stated on good authority that most carriers react to it, but even this is not infallible. Another difficulty encountered is that of the wandering farmhand who drifts in for employment and goes away again after he has contaminated the milk supply. The walking case of typhoid and the improperly cared for typhoid on the farm are very positive sources of danger.

A typical history of a milk epidemic is as follows: A number of cases of typhoid, eight or ten or more, develop in a town over a period of a month or two when the typhoid rate should be nearly nil. Examination of the things they have in common leads back to a milk supply. Inquiry into the prior history of typhoid in the community may reveal similar outbreaks on intervening months or years. Not much attention was paid to it when typhoid was universally common but because of the present decrease of the disease they now become a subject of inquiry. Investigation as to the source determines that the owner of the dairy or his wife, or some of his children have had typhoid perhaps long years ago. A stool test or a Widal may reveal typhoid in some one of these individuals. If it does not the history is complete enough to obtain repeated tests and to so arrange the milk supply that it is not directly handled by the usual parties on the farm, or it is pasteurized. A postive stool test places an individual out of the handling of milk or its product in any way for the future.

A saving grace in the outlook is the fact that if three per cent of typhoid patients become carriers, the lessening typhoid year by year produces less carriers although the years will be many before we begin to reach the vanishing point.

The history of typhoid in milk supplies is such that any community knowing the facts should in the interest of its citizens see that its supply is adequately pasteurized or inspected, not because of typhoid alone but because of a number of other diseases that are prone to multiply in milk. Community conditions do not always admit of pasteurization. Methods of inspection require a considerable degree of perfection in the handling of milk upon the farm to insure against contamination and any system of inspection should be adequate and its dictates lived up to.

PUBLIC HEALTH NEWS ITEMS.

There has been recently a serious outbreak of typhoid fever in Sturgeon Bay. There were forty-three cases in all, the largest number of which occurred on one street. This epidemic was traced to polluted water. Dr. Bowman and Mr. Tully from the State Board of Health were put in charge

of the work to locate the source of the trouble. As a result of this work the city now has a new and pure water supply.

Typhoid fever in 1908. "By active work in Indiana the deaths from typhoid fever have been reduced from two thousand a year to six hundred." This is how typhoid fever was viewed fourteen years ago. Contrast this figure with 79, the number of deaths from typhoid in Wisconsin in the year 1921. Thus science marches steadily along year by year.

The fly. Propaganda against the fly continues to surfeit the world. Cartoons and poems herald the deadly effect of flies in poisoning food with deadly bacteria. The method advocated for the destruction of these pestiferous insects, swatting, can be very aptly compared to a man buying a bushel of peanuts and rolling them home one at a time with his nose. It is probably expecting too much to say that it seems that some bright cartoonist, or bubbling poet, would have by this time suggested the destruction of the places where these pests breed and feed.

Intestinal Parasites. From July 1st to December 1st, 1921, there were admitted to the U. S. Veterans' Hospital at Biltmore, N. C., patients to the number of 760. Nearly all of these were veterans of the late world war from North and South Carolina, Georgia, Tennessee, Alabama and Florida. An examination for intestinal parasites was made on 597; few, if any, had been admitted because of intestinal parasites. The results of these examinations showed that forty-three per cent were infected by one parasite or another.

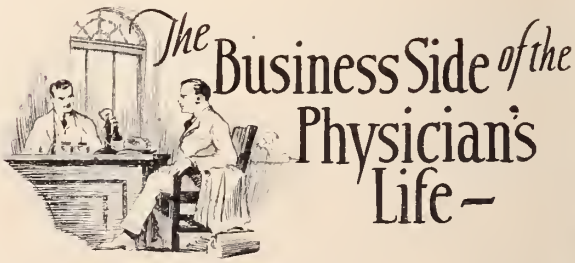
The physicians in Wisconsin should not feel that because they are practicing in a northwestern state that they need not be concerned about intestinal parasites. The reason more patients, who go from one physician to another complaining of obscure abdominal symptoms until everything inside is removed that it is possible to remove, are never properly diagnosed is because nobody thinks of making a stool examination. Many of these unfortunate patients are suffering from infection by intestinal parasites.

Miss Adda Eldredge, Director of the Bureau of Nursing Education for the State Board of Health, was elected to the Presidency of the American Nurses' Association at the national convention in Seattle.

A number of new appointments for County health nurses have recently been made. These appointments are as follows: Mabel Boening, Calumet County; Mary A. Regan, La Crosse County; Jeannette Pugh, Waushara County; Linda Fries, Dane County. Resignations were filed by Ruby McKenzie, Barron County; Helen Kenney, Milwaukee County; Mabel Danielson, Dane County.

Dr. Robert Olesen, Surgeon, United States Public Health Service, who three years ago came to the State Board of Health as epidemiological aid, has been sent to North Dakota to assist in the reorganization of the State Health Department. Physicians and other public health workers in Wisconsin are sorry to see Dr. Olesen go. During the short time he was here he succeeded in organizing the Bureau of Communicable Diseases under the State Board of Health, and was successful in securing the co-operation of physicians and others in the collection of morbidity records.

Dr. Olesen was a regular contributor to the public health section of the JOURNAL and his articles were always full of interesting material for both the physician and the public health worker.



The writer of this article walked into the office of a well known Milwaukee manufacturer and popped this question at him: "How should a physician invest his money so as to keep it amply protected, and yet build up a good income fund against the future?"

"Young man," replied the manufacturer, "I don't know how you got in here, but as long as

you are here, I'll ask you if you ever heard the famous recipe for rabbit pie, which begins as follows: First you catch your rabbit."

My friend the manufacturer waited for no reply but went ahead:

"It so happens that I know a good deal more about physicians than the average man, for my association with them has been extensive. There are two classes of people that in my opinion are sadly deficient in the knowledge of the day 'to catch their rabbits'. One of these is the merchant tailor, and the other is the physician. I should say they were about tied on their ability or lack of ability to get the money that is due them, and before you start talking about investing money, it would be a good idea to find out first how to collect it.

"Not so long ago I took a motor trip up through this State and Minnesota. I called upon a couple of physicians along the way who were friends of physician friends of mine. That is, we're friends everywhere off the golf course. I had quite a visit with both these fellows and they told me all about themselves and of course I did the same about myself.

"They were both of them corking fine men and appeared to have splendid practices. At any rate during the time I was with them, and in each case it was late in the afternoon, we were frequently interrupted by patients calling or phoning. One of the physicians told me, however, and I'll be jiggered if he didn't seem down right proud of it, that there were some weeks when he didn't see a nickel in cash.

"He proceeded to tell me how the farmers had been hit by the depression and so had the merchants and apparently everyone else. You'd have thought there wasn't a nickel in cash left in the town, but when I stopped at the garage to get some gas, I found they were still doing business on a cash basis as usual, and I thought I heard a jingle that sounded like cash in the two or three stores I was in.

"Oh, of course he had a fine long list of accounts on his books. He showed me these too, with the same show of pride. All the best families in town and county were there and some of the accounts hadn't been in balance since the Lord knows when.

"The other physician that I called on showed me a neat little packet of notes receivable that he had taken. That packet seemed to be quite a comfort to him. He admitted there wasn't much cash coming in, but look at the notes. He wasn't like 'some physicians'. He made his patients treat him in a business-like way. Well, of course notes are a little improvement on an ordinary account in that they bear interest but none of these notes had a lick of collateral back of them and would be poor things to hand over to one's widow.

"Here in the city things are a little better. A few physicians have gotten up spunk enough to send out a statement every month to everyone. Perhaps here and there in the smaller towns a few are doing it too. I know one physician who started it and quit cold because one or two patients made a caustic comment on his 'unseemly haste'. But those who stuck to their guns quickly found their patients accepting the idea readily.

"In Heaven's name why shouldn't they? Is there any more reason why the physician should wait for his money until the patient gets the notion to pay, than the grocer or the butcher or anyone else. Because the merchant tailor does business on the 'pay me when this suit wears out and you have to get another' plan, is no justification for the physician adopting the same idiotic principles. It isn't a matter of professional ethics. Ethics don't enter into this matter at all. It's simply an old habit that has come down through the generations and ought to be put away in mothballs. It's a lack of appreciation of what he is offering that permits the physician to be lax. If he were handing out meat, or groceries or bread, or anything tangible that he had just paid good money for himself, believe me, he'd want his money in a reasonable length of time and would see to it that he got it.

"But no, what he is offering is something intangible—the knowledge contained in his head, the skill that is in his fingers. If someone forgets to pay him, resorts to the philosophy, 'Oh, well, it's just a little time lost.'

"That's where he is wrong. No man can do business without some overhead expense. There's his office rent, his supplies, his equipment that is depreciating every day, his auto, and a score and more things. But most important of all, there's the years of time and the thousands of dollars that have gone to fit him to practice his

profession. That body and mind of his won't go on forever. He must make it produce in a relatively short time enough to keep his family and himself not only while he's active, but when the time comes that he wants or has to retire.

"This subject interests me a good deal. I'm a crab about it I guess, for I think a lot of those friends of mine that are physicians. Most physicians are pretty good fellows, I find, and I wish I felt surer than I do that they were getting somewhere financially. They certainly deserve to, for their jobs are pretty much of a grind, or at least they seem so to me. I do know a few that have a definite financial program laid out, but they're only a few, and I believe this lack is general.

"I'm a business man and business men are popularly supposed to have a different code of ethics from that of the professional man. As a matter of fact we aren't so far apart. The ethics of all right thinking men are pretty much alike. As a business man however I couldn't tolerate the business methods that the average physicians take as a matter of course, and as a matter of fact no physician can afford to either. Your Wisconsin Medical Journal could devote its pages to a lot worse purposes than preaching the doctrine of better business methods to its readers, and by that I mean a systematic and regular issuance of monthly statements, insistence on prompt payment of accounts, an accurate registering of work done, and an accurate charging for work done. Finally, a simple but understandable record of the physician's cost of doing business. That one thing might do as much as anything to spur him into being a better collector.

"Remember what I told you about the rabbit pie. It goes with investments. You've got to have a margin in cash above your ordinary living expenses before you can seriously start an investment fund, and you can't build an investment fund on uncollected accounts."

CARDIOPULMONARY SNAP.

Two cases are reported by E. A. Duncan, El Paso, Texas (*Journal A. M. A.*, June 10, 1922), to illustrate an unusual pleuritic phenomenon in cases of pulmonary tuberculosis. On deep inspiration there was a sharp pain, typically pleuritid in character, in the left nipple area. Further, at times the patient was conscious of a snapping noise and of a sensation in the neighborhood of the heart. At other times the snap occurred with each heart beat, especially when lying turned slightly toward the left side. Physical examination disclosed pleural friction rub, audible along the right sternal margin below the fourth rib. On slow respiration in the recumbent position, a palpable and audible snap was present over the lower sternum, loudest at the right border between the fourth and sixth ribs. The snapping sound sometimes heard over the sternum and adjacent parts of the ribs on respiration, and which originates in the costachandral, chondrosternal or sternal junctions, is ruled out in these cases. The explanation of the snap evidently is that, in the presence of pleural inflammation between the heart and the chest wall, the movement of the gliding lung margin is impeded by a pleural surface roughened by an eruption of tubercles or a fibrinous deposit. Cardiac systole, by enlarging the space in which the lung margin is advancing, and also by momentarily increasing the negative intrathoracic pressure, permits the lung suddenly to slip past the obstructing area with a snap. When this sound is repeated with each systole, there is evidently a diastolic back-push to the lung margin, which then, with the quicker alteration in relative position of heart and lung on systole snaps back to its original position.

HYDATIDIFORM MOLE AND CHORIO-EPITHELIOMA.

Besides reviewing the literature and clinical history of hydatidiform mole and choria-epithelioma, Emil Novak, Baltimore (*Journal A. M. A.*, June 10, 1922), reports eight cases of hydatidiform mole and four cases of chorio-epithelioma in which there was a striking similarity in the symptoms. In chorio-epithelioma, the most constant symptom is uterine hemorrhage. In some cases it follows almost immediately after the termination of the pregnancy, or occurs during the pregnancy itself. The first indication of the tumor in more than one half of the cases is the appearance of vulvar or vaginal metastases. These growths are situated most frequently on the anterior vaginal wall, and have a rather characteristic dark bluish, varix-like appearance. Another clinical manifestation of dissemination of the growth is the occurrence of hemoptysis, indicating pulmonary metastasis, a frequent occurrence. The three pathologic changes which characterize hydatidiform mole are traphoblastic proliferation, hydropic degeneration of the stroma, and degeneration of the blood vessels. If there is any one feature which distinguishes chorio-epithelioma from its benign prototype, it is its invasiveness. The villi, instead of lying comparatively free, are buried in the tumor cells, which are arranged according to a rather characteristic honeycomb pattern.

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Waupaca	E H Jones Weyauwega	A. M. Christofferson, Waupaca
Winnebago	F. G. Connell, Oshkosh	T. D. Smith, Neenah
Wood	D Waters, Grand Rapids	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

BROWN-KEWAUNEE.

The Brown-Kewaunee County Medical Association enjoyed a very pleasant outing the evening of July 17 at Konop's Hotel in Stangelville. About forty members attended and were served with dinner at seven o'clock. President Carter of the Association called on Dr. Buchanan who recently returned from a trip up the Nile and in several North African countries. Dr. Buchanan told of many interesting and pleasant incidents that he and his wife enjoyed during their extended trip. He spoke of the six days on the desert and the splendid food they had, and how they enjoyed all the comforts of home on the great Sahara.

NINTH COUNCILOR DISTRICT

The summer meeting of the Ninth Councilor District Medical Society was held July 20 at the Public Library building at Waupaca. The program was as follows: Medical Aspects of the Shepard-Towner Bill, Dr. D. T. Jones, Wausau; Medical Aspects of the Volstead Act, Dr. A. M. Christofferson, Waupaca; Medical Aspects of the Harrison Narcotic Law, Dr. F. A. Stouthwick, Stevens Point; Legislation as Affecting the Medical Profession, Dr. O. B. Bock, Sheboygan.

Following the program dinner was served at six o'clock in the parlors of the Methodist Church.

PORTAGE COUNTY.

Tuberculosis diagnosis, the proposed tri-county sanatorium for Portage, Waupaca and Wood counties and tuberculosis problems of Portage county were among the subjects discussed at a special meeting of the Portage County Medical Society held July 11 at the court house at Stevens Point.

The examiners at the free chest clinic, Drs. A. A. Pleyte, Thomas Willett and T. L. Harrington were the speakers.

An interesting feature of the meeting was a demonstration of a chest examination by Dr. Pleyte, state sanatorium consultant. Considerable time was given to a discussion of tuberculosis among children.

ROCK COUNTY.

"Medics" and their wives of Janesville were guests of Beloit doctors at a picnic of the Rock County Medical Society at Yosts Park, July 26. Two picnics are given each year, the Janesville doctors being hosts at one and Beloit doctors hosts at the other. Barnyard golf was the attraction for a while, other games were played and dancing was enjoyed in the evening. There were about forty in attendance.

WALWORTH COUNTY.

A meeting of the Walworth County Medical Society was held in the Elkhorn House, Elkhorn, July 12. Dr. H. P. Greeley of Madison spoke on "Vascular Hypo- and Hyper-tension, Its Causes and Treatment." A clinic was held, patients being brought in by members of the society. The Holton-Elkhorn band gave one of their concerts in the court house park on the same evening and dinner was served.

NEWS ITEMS AND PERSONALS

Dr. Ivan D. Mishoff has moved his office from 413 Goldsmith Bldg. to 607 Merrill Bldg., 211 Grand Ave., Milwaukee.

Dr. W. W. Bauer has been appointed permanent epidermologist of the health department of Milwaukee by Dr. George C. Ruhland, commissioner of health.

Construction of the $1,350,000 Wisconsin general hospital, authorized by the special session of the legislature in 1920, will go forward at once from funds made available through the service recognition board, Gov. Blaine announced in an address at Portage, July 6.

The building of this hospital, upon which a four-year medical course at the University of Wisconsin is to be developed, has been held up by Gov. Blaine for the last year and a half because of his belief that there were not sufficient funds in the treasury to warrant construction. Recovery of unreported income taxes amounting to $250,000 has replenished the hospital fund, the governor said.

The highest honor any nurse can receive was conferred upon a Wisconsin woman by the American Nurses' association, when it elected to the presidency Miss Adda Eldredge, Madison, at the national convention at Seattle, Wash. Miss Eldredge is director of nursing education in the Wisconsin state board of health. For the recent convention she was chairman of the program committee.

Sunnyview Tuberculosis sanatorium, erected and maintained for years by Winnebago county, is now a tri-county institution. Formal action has been taken whereby Winnebago, Fond du Lac and Waushara counties will own and conduct the sanatorium, the final step being the organization of a board of trustees representing the three counties.

William Faber, Oshkosh, was elected president of the board; Buchanan Johnson of Plainfield vice-president, and C. J. Breitzman of Fond du Lac secretary.

Purchase of property at Grand avenue and Nineteenth street, Milwaukee and plans for the erection of an addition to the Deaconess hospital and a nurses' home on the site have been announced by the Evangelical Deaconess society of Wisconsin. Work on the new structures, it is expected will start early in 1923.

Dr. G. A. Keland, formerly of Madison, has returned to that city to resume his practice of medicine and surgery. He has taken offices in the Gay building.

The appointment of a committe of the Wood county board to consider the advisability of building a tuberculosis sanitarium and to meet with the special committees of Portage and Waupaca counties to discuss the possibilities of a tri-county institution will be one of the first steps in a movement to provide sanitarium facilities for the tuberculosis patients of Wood county.

Dr. F. Herbert Haessler has announced the opening of his office at 141 Wisconsin street, Milwaukee.

Prof. B. H. Schlomovitz, director of the department of physiology and pharmacology, Marquette University School of Medicine, has resigned to become director of laboratories of the National Soldiers' Home hospital being erected in Milwaukee.

The alternative writ of mandamus brought by Drs. Herman Wolf and E. Smedal to compel the La Crosse Lutheran hospital association to permit them to send cases to the Lutheran hospital and to care for them there, was quashed by Judge Fowler of Fond du Lac. The court held, in substance, that the trustees of the hospital had the right to operate the hospital according to their best judgment and could expel any member of the attending staff at will.

Dr. J. H. Sure, 830 Caswell Blk., Milwaukee, announces that after August 1, his practice will be limited to obstetrics and gynecology.

Dr. Francis D. Murphy has announced the opening of an office in the Palace Building, Milwaukee.

Dr. F. E. Tryon of Baraboo has been appointed health officer of that city.

Dr. Fred V. Watson and family of Antigo have left that city to make their home in Los Angeles, Calif. Dr. E. G. Bloor will take over Dr. Watson's practice in Antigo.

Dr. G. W. Moore, Antigo, is leaving for Los Angeles, where, with his family, he expects to make his future home. He expects to make the trip by automobile over the Lincoln highway. Dr. Moore was president of the Langlade County Medical Society for six years and has also acted as secretary for the same length of time.

Dr. W. O. Dehne of Appleton has opened offices in the Outagamie Bank building of that city.

Dr. Lawrence H. Oliver has opened an office at Friendship. Dr. Oliver has formerly been located in Arizona.

The many friends of Dr. Charles S. Sheldon, for twenty-five years secretary of the Organization, are always glad to know of his activities. He has recently given an address before the Wisconsin State Bar Association and has been elected president of the Wisconsin Congregational Club and a member of the Board of Directors of the Commercial Trust and Savings Company of Madison.

DEATHS.

Dr. A. C. Karsten, for many years a practicing physician at Horicon, died suddenly on July 1st, at the age of 58 years. Apoplexy was the cause of death.

Dr. W. P. O'Malley, prominent Madison physician a score of years ago, was killed in an automobile accident at Shakopee, Minn.

MARRIAGES.

Miss Marie Klees, Oshkosh, to Dr. R. H. Bitter, Oshkosh.

Miss Elsie Luebke, Clintonville, to Dr. W. R. Finney, Clintonville.

ACTIVITIES OF THE ANTIVIVISECTIONISTS.

The comments made in an editorial in the *Journal A. M. A.* concerning antivivisection propaganda now being conducted in Colorado are directed particularly to that state, since the problem there is an immediate issue. In other states, however, the antivivesectionists, enlisting in their cause all other antis against preventive and curative medicine, are either now, or will be in the near future, actively engaged in propaganda of a similar character. Louisiana, Florida, Idaho, Oregon, Washington and California anticipate conflict this fall on this particular subject. The medical profession must aid an enlightened public to inform legislators clearly as to the issues involved. The question is not, however, one which concerns the medical profession primarily; it is fundamental to the public health. *Jour. A. M. A.*, June 17, 1922.

"AN APOLOGIST FOR 'PATENT MEDICINES'."

Henry C. Fuller's new book "The Story of Drugs" was discussed at some length in The Journal for May 13. Its whitewashing of the "patent medicine" business and its panegyric of the Proprietary Association (the "patent medicine" organization) led The Journal to suggest that the nostrum interests could well have afforded to put out the book at their own expense as a free gift to the public. The latest issue of the mouthpiece of the "patent medicine" interests, *Standard Remedies*, unwittingly confirms The Journal's opinions. The magazine contains an editorial praising Fuller's book and suggesting that "it should be in the hands of every manufacturer and all of his chiefs, at least"; it opines that "anyone in the business will be fascinated with it." Elsewhere in the same issue of *Standard Remedies* appears another item of interest. In an article dealing with the recent annual meeting of the Proprietary Association, we find reference to "Dr. Henry C. Fuller of the Institute of Industrial Research" and the statement that Fuller had made a report to the "patent medicine" men when they were in session, "of his research and analytical activities on behalf of the Association." "We are advertised by our loving friends!"—*Jour. A. M. A.*, June 10, 1922.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

The Technique of Psychoanalysis. By David Forsyth, M. F., F. R. C. P. Moffatt Yard & Co., New York. $2.00.

Studies in Dreams. By Mrs. H. O. Arnold-Forster. The MacMillan Co., New York. 1921.

Will-Power and Work. By Julius Payot, Ph. D. Funk & Wagnalls Co., New York, 1921. Price $1.75, net.

Clinical Diagnosis. By Alfred Martinet, M. D., Paris, France. Translation by Louis T. deM. Sajous, B. S., M. D. 895 engravings and several full page color plates. In two volumes. Volume I, Physical and Laboratory Diagnosis. F. A. Davis Co., Publishers, Philadelphia. 1922.

The Medical Clinics of North America (Issued Serially, one number every other month). Volume V, Number VI. May, 1922. By Chicago Internists. Octavo of 308 pages and index to Volume V complete with 22 illustrations. Per clinic year (July, 1921, to May, 1922). Paper, $12.00. Cloth, $16.00, net. Philadelphia and London: W. B. Saunders Company.

Applied Psychology for Nurses. By Mary F. Porter, Highland Hospital, Asheville, N. C. 12mo of 172 pages. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $1.50, net.

The Writing of Medical Papers. By Maud H. Mellish, Editor of the Mayo Clinic Publications. 12mo. of 157 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $1.50, net.

An Introduction to Child Psychology. By Charles W. Waddle, Ph.D. Houghton-Mifflin Company, New York.

Mental Disease a Public Health Problem. By James V. May, M. D. Richard G. Badger. The Gorham Press, Boston.

Heredity and Environment in the Development of Man. By Edwin Grant Conklin. Princeton University Press, Princeton, 1922. Price, $2.50.

Human Efficiency and Levels of Intelligence. By Henry Herbert Goddard. Princeton University Press. Princeton. Price, $1.50.

How the Mind Cures. By George F. Butler, A. M., M. D., New York. Alfred A. Knopf, Publisher. Price, $2.50.

Juvenile Delinquency. By Henry Herbert Goddard. Dodd, Mead and Company, New York. 1921.

Instinct and the Unconscious. By W. H. R. Rivers, M. D. Second edition. The Macmillan Company, New York. 1922.

Applied Chemistry. By Fredus N. Peters, Ph.D. Illustrated. C. V. Mosby Company, 1922. Price, $3.50.

Symptoms of Visceral Disease, A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, M. D. Second edition; 86 illustrations; 10 colored plates. C. V. Mosby Company, St. Louis. 1922.

Transactions of the American Pediatric Society, 33d Session. Edited by Joseph Brennemann, M. D., 1921.

Psychoanalysis and the Drama. By Smith Ely Jelliffe, M. D., and Louise Brink, A. B. Nervous and Mental Disease Publishing Co., New York and Washington. 1922.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By George E. deSchweinitz, M. D., LL.D. Ninth edition, reset. Octavo of 832 pages with 415 text illustrations and 7 colored plates. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $10.00, net.

The Practice of Medicine. By A. A. Stevens, M. D. Octavo of 1,106 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.50, net.

American Medical Association Pamphlets. Four pamphlets of from 16 to 68 pages. Illustrated. 50 cents. A. M. A. Journal, 535 North Dearborn Street, Chicago.

The Principles of Physics and Biology, Radiation Therapy. By Bernard Kroenig, M. D., and Walter Friedrich, M. D., University of Freiburg im Breisgau. Only authorized edition by Henry Schmitz, M. D. Rebman Company, New York.

Radium Therapy. By Frank Edward Simpson, A. B., M. D. With 166 original engravings. St. Louis. C. V. Mosby Company. 1922.

1921 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1318 pages. 392 illustrations. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $12.00 net.

A Text Book of Practical Therapeutics. By Hobart Amory Hare, M. D., L. L. B., B. Sc. 18th edition. Philadelphia and New York: Lea and Febiger, 1922. Price, $6.50.

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph. B., M. D. Illustrated with 136 engravings and 8 plates. Philadelphia and New York: Lea and Febiger, 1922. Price $5.50.

Glands, Health and Disease. By Benjamin Harrow, Ph. D., New York. E. P. Dutton Company, 1922. Price $2.50.

Optimistic Medicine or the Early Treatment of Simple Problems Rather Than the Late Treatment of Serious Problems. By Arthur C. Crandall. Philadelphia: F. A. Davis Company, 1921. Price $5.50.

Hayfever and Asthma, Cure, Prevention and Treatment. By William Scheppegrell, A. M., M. D. Illustrated. 107 engraved and 1 colored plate. Philadelphia and New York: Lea and Febiger, 1922. Price $2.75.

The Law of Vital Transfusion and the Phenomenon of Consciousness. By Charles J. Reed. Occidental Publishing Company, San Francisco, Calif.

Bi-Sexual Love. By William Stekel (Vienna). Authorized translation by James S. Van Tressler, M. D. Boston. Richard G. Badger: The Gorman Press, 1922.

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BOOK REVIEWS

The Technique of Psychoanalysis. By David Forsyth, M. D., F. R. C. P. Moffatt Yard & Co., New York. $2.00.

This little work of 133 pages discusses three main topics. First, The Analyst Himself; second, Prerequisites of the Treatment; third, The Analysis Proper. It owes its inception to an address given the members of the Psychoneurological Society in London. It presupposes some knowledge of psychoanalysis on the part of the reader, but gives a much needed technic for which a beginner would strive for years. It is an excellent little work.

Studies in Dreams. By Mrs. H. O. Arnold-Forster. The MacMillan Co., New York. 1921.

This is a contribution to the study of the problem about dreams. The author makes no claims of being a scientific explorer but only a recorder of her own dream experiences, who has "attempted some partial explanation of the riddles that are met with." It is an accurate record, however, and this is often of more value than adequate theories. It is certainly a valuable little contribution to the subject of dreams, is interestingly written and is well worth while.

Will-Power and Work. By Julius Payot, Ph. D. Funk & Wagnalls Co., New York, 1921. Price $1.75, net.

This work takes up such subjects as "Love of Work the Condition of all Progress," "Real Intelligence and Great Men," "Attention," "Memory," "Instruction Great Men," "Attention," ,"Memory," "Instruction Through Reading," and "Methods in Various Branches of Study." It deals particularly with the development of that practical energy which makes for real success in life. It is a study of self-culture which will make a strong appeal to those who would increase their mental efficiency and power of accomplishment.

Clinical Diagnosis. By Alfred Martinet, M. D., Paris, France. Translation by Louis T. deM. Sajous, B. S., M. D. 895 engravings and several full page color plates. In two volumes. Volume I, Physical and Laboratory Diagnosis. F. A. Davis Co., Publishers, Philadelphia. 1922.

The first part of this excellent work takes up general consideration on diagnosis—the present state of diagnostic science and its evolution, ignorance, faulty examination and errors of judgment. The second part takes up special medical diagnostic procedures such as Examination of Digestive Tract, the Respiratory Tract, the Circulatory System, the Genito-Urinary Tract and General Technical Procedures such as Parasitology and Bacteriology. Thirty pages are also given to a discussion of systematic medical examinations. The plan followed is one of marked simplicity and it is a work which more than merits a popular approval.

MILK INGESTION IN RELATION TO CHANGES IN BODY WEIGHT OF NEW-BORN INFANTS.

F. L. Adair and Chester A. Stewart, Minneapolis, (*Journal A. M. A.*, June 17, 1922), present the results of a study of the changes occurring in body weight, and also of the amount of breast milk obtained at each nursing during the first ten days of life for 298 infants (149 first born and 149 later born infants), weighing between 2,500 and 5,000 gm. at birth. The average body weight decreased to a minimum on the fourth day (the date of birth being considered as the first day). The average loss amounted to approximately 8 per cent (266 gm.) of the birth weight for the first born infants, and to approximately 6.4 per cent (244 gm.) of the initial weight for the later born infants. There was no progressively uniform daily decrease in weight, but for each group the greatest loss occurred on the second day. Following the fourth day, the average body weight for each group progressively increased. On the tenth day, however, the average weight of the first born and later born infants was still 2.4 and 2.6 per cent, respectively, below the initial weight. For each group of babies the greatest daily gain in weight occurred on the fifth day postpartum. For the first born infants (sexes combined), the amount of breast milk obtained increased rapidly from an average of 13.0 gm. per feeding on the second day to 54.9 gm. on the fifth day. From the sixth to the tenth day, inclusive, the increase continued, although less rapidly, the average meal on the tenth day amounting to 78.4 gm. With the later born infants (sexes combined), the average amount of breast milk per feeding increased from 16.9 gm. on the second day to 59.4 gm. by the fifth day. On the tenth day, the food intake averaged 84.7 gm. per feeding. Throughout the period studied, the babies of multiparous mothers averaged larger feeding than the babies of primiparous mothers. The heavier infants in general obtained more milk from the breast per feeding than lighter infants (first born and later born infants combined), particularly after lactation was well established. Furthermore, of each weight group the average meal in general was larger for the infants of multiparous mothers than for those of primiparous mothers. Except for the eighth and ninth days, the average amount of mother's milk taken daily for each kilogram of body weight was slightly higher for later borne than for the first born infants. The average amount of 10 per cent lactose solution taken per feeding increased to a maximum on the second day. On the following three days, as the supply of milk increased, the lactose solution ingested progressively decreased. Apparently there was no distinct difference in the amount of lactose solution taken during this period by the later born as compared with the first born babies. Total fluid ingestion per meal (breast milk and lactose solution combined) during the first five days increased from 18.5 and 17.5 and and 75.0 gm. for the first and later born infants respectively. Exclusive of the first day, the total fluid ingestion averaged slightly higher for the latter group of infants.

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ENCEPHALITIS LETHARGICA — EXPERIMENTAL AND CULTURAL STUDY.*

BY WM. THALHIMER, M. D.,

MILWAUKEE.

Epidemic encephalitis, or as it has been called, encephalitis lethargica, is manifestly an infectious disease. The proof for this need not be gone into here. There has been sufficient in the observations and in investigations already reported in the literature, to demonstrate this beyond question. Also, the investigations demonstrate that it is a disease which is not associated with and does not necessarily follow influenza (the epidemic form of Flu, as it has been seen recently) nor is epidemic encephalitis a manifestation of the specific effect of the specific organism of botulism. That being so, if epidemic encephalitis is an infectious disease, there are two important problems which immediately present themselves. The first is, what is the nature of the infectious agent of epidemic encephalitis; secondly, can epidemic encephalitis be transmitted to animals.

In the investigations on this subject up to the present, there have been two series of reports which have to do with the nature of the infectious agent of this disease, these two series of reports being quite different. One group of investigators have isolated organisms which correspond to the usual types of bacteria, as they have commonly been known in the past, and the other group of investigators have demonstrated, to their satisfaction, and have submitted the data, to show that the infectious agent of epidemic encephalitis is a filterable agent and will pass through a Berkefeld or similar filter which holds back the ordinary type of bacteria. There are, therefore, these two, one might term them different groups of investigators, their investigations giving results that are different.

A number of investigators might be enumerated who have isolated different types of organisms from cases of epidemic encephalitis. Some of them have isolated bacilli. Most of the investigators, however, have isolated gram positive cocci, and the different investigations of Brasher, Burnell, Stafford, Morse and Crump, etc., would seem to indicate that these organisms are in most cases quite different from one and another.

The investigators who believe that they have demonstrated the relationship of a filterable agent to epidemic encephalitis are Loewe and Strauss of New York, Levaditi and Harvier, the work at the Columbia Hospital, MacIntosh and Turnbull, an Italian investigator named Maggiore and other investigators. All of those investigators, however, represent two separate pieces of work only. And last, Wilson, Bashford and Bradford, of England, who also claim to have produced a condition in animals which is identical with epidemic encephalitis. The work of Wilson and his co-workers is incomplete because they were handicapped by working in a laboratory near the Army front, and the animal experiments are insufficient, and it also, because of an incomplete criticism by Arkswright, has been open to considerable skepticism. Nevertheless it might be that the future will demonstrate that this group of workers were really the first ones to demonstrate a filterable infectious agent in epidemic encephalitis.

The experiments at Columbia Hospital have been done mainly on rabbits and guinea pigs, and we believe that we have been able to demonstrate a filterable agent which has produced in these animals a disease which is quite similar to the disease epidemic encephalitis, and lesions in the central nervous system of these animals which is the same type of lesion that is characteristic of epidemic encephalitis. And here it is necessary to make a distinction, because it is true that there is no type of lesion in the central nervous system which is typical of epidemic encephalitis—meaning by that that there is no lesion by identification of which

*Read before the State Medical Society of Wisconsin, Milwaukee, Sept. 7, 1921.

you can say that this material came from a case of epidemic encephalitis and did not come from any other disease. The reason for that is that a number of other conditions in the central nervous system show lesions which are identical, poliomyelitis, malaria, the frontal lobes, the general paresis. Therefore, one cannot speak of these lesions as typical, but they are characteristic, and the lesions produced by these diseases do differ in their distribution. The lesion produced by poliomyelitis occurs in a different location from those produced by epidemic encephalitis.

The source of our material has been from six cases which came to autopsy. These cases, clinically and pathologically, were characteristic cases of epidemic encephalitis. In addition to these fatal cases, we have worked with the material from about 30 cases that were not fatal. The material from these non-fatal cases, the spinal fluid and naso-pharyngeal washings, the Berkefeld filtrates from the brain material in the fatal cases, produces a disease which we believe to be experimental encephalitis. We have also been able to produce the same condition in animals in a few instances with Berkefeld filtrates of nasal washings from some of these cases. The incubation period in the animals varies, depending upon the nature of the material injected. Our results, together with the results of others working with filtered material, gives the incubation period of from about 7 to 14 days. Rarely do the animals come down sooner than that; but the incubation period is frequently longer, and may be as long as six weeks or two months. Evidently the more fixed the virus after it has once been passed into animals, the quicker will that virus subsequently bring down further animals. The filterable agent has been passed through many series of animals, as many as 18 series of animals. The animal coming down with a disease, the lesions being found in that animal, the material from that animal's brain passed through a Berkefeld filter and re-injected into another series of animals. Some animals are evidently naturally immune. One has to inject animals in groups. Not all the animals come down. With some strains of virus as many as 5 out of 6 animals will come down. Sometimes none will come down. As a general rule, from 50 to 60 per cent of them will come down.

Cultures have been made of the Berkefeld filtrates of the original material secured from the human cases, with Smith-Noguchi medium. This is tissue ascitic fluid medium, and the method is anaerobic. There has been grown a very minute organism, which stains with great difficulty, is round, and from about one-third to one-fifth the size of an ordinary streptococcus. This organism will also pass through Berkefeld filters, and these Berkefeld filtrates and cultures, a number of generations removed from the original source, when injected into animals have also produced a disease with lesions which have the characteristics of those of epidemic encephalitis.

This organism has been recovered from the central nervous system of animals that have been brought down with the virus passed from animal to animal, and has also been recovered from animals that have been brought down with the cultures of the organism. This, therefore, can be said to complete a cycle. An organism has been recovered from material isolated with a certain disease—epidemic encephalitis; this organism has been grown through a number of generations, has been re-injected into animals, the animals have come down with characteristic symptoms and lesions, and the organism has again been recovered from these animals.

Controls have of course been made. Material similar to that worked with from epidemic encephalitis cases has been secured from other types of cases, brain tumor, tuberculous meningitis, staphylococcus bacteriemia, etc.; and nasal washings also have been secured from various types of disease. Animal inoculations with filtrates from these control materials have been negative. Cultures with the Smith-Noguchi medium of these filtrates have been negative. The filtrates have been repeatedly, almost constantly, controlled by the ordinary aerobic culture methods, and have been found sterile by those methods. The brains from some rabbits, not a great many, have also been cultured by aerobic methods, and have been found sterile.

There has been a careful control of all of the elements which go to make up the culture medium, and there has been a careful control of the stains, to be sure that the stains do not contain organisms which we believe we have been seeing under the microscope.

Our conclusions from this investigation, and from similar investigations referred to which have been done by a number of others, lead us to the conclusions that epidemic encephalitis is an infectious disease; that it has been transmitted to animals with characteristic clinical and pathological findings; that the causative agent does not belong to the group of ordinary bacteria, but it is a filterable virus, which is capable of passage through a Berkefeld filter; that a minute organism has been cultured from Berkefeld filtrates of material secured from epidemic encephalitis, and from animals that have come down with characteristic clinical and pathological findings; the cultures of this organism not only reproduce the disease in animals, but characteristic lesions as well are found in these animals, and that the organism is again recovered from these animals, thereby completing the cycle.

ENCEPHALITIS LETHARGICA.*

By LOUIS M. WARFIELD, A. B., M. D.,

ANN ARBOR, MICH.

NOTE: The cases forming the basis of this paper occurred in the author's practice in Milwaukee, Wisconsin.

It is held by some that we are experiencing a new disease. Others think that this is an old condition which has again swept the world. due to causes of which we know very little, but which may have to do with the general lowering of bodily resistance resulting from the flu epidemic. It is interesting that up to 1917 there was no mention of the word encephalitis in the volume of the current index published by the A. M. A. In 1917 there are three references under the heading "Encephalitis," only one of which, however, is suggestive of the now widely known disease. This is entitled "Encephalitis of Unknown Origin" and is reported in the Medical Journal of Australia, 2:352, October 27, 1917, by Mathewson & Latham.

In the 1918 volume there are thirteen references, for the most part by French authors, and the term "encephalitis lethargica" occurs for the first time. Cases are reported from England, Scotland, France and Italy.

In the 1919 volume the heading "Encephalitis Lethargica" is found. One finds now almost a page of references.

Finally, in the 1920 volume there are more than three pages listing over three hundred references. This shows very graphically the interest and the widespread character of this disease.

As far back as the early part of the 18th century there was a disease called "nona" which might have been this same disease, but the references are so incomplete that it is impossible to say definitely that it is the same. Our present knowledge really dates from the book of Economo, who, in 1918, reported a number of cases occurring in parts of Austria in 1916 and gave the name of encephalitis lethargica to the disease. Later, cases were reported in England and from that time to the present are reported from all over the world. The first cases in Austria were ascribed to food indigestion and those in England were thought to be due to botulism. This can readily be understood when the symptoms of the disease are considered, as the onset is very often with paralysis of the third nerve causing diplopia and ptosis. One of the most comprehensive studies that has been made was that of MacNalty, which was embodied in a "Report to the Local Government Board" No. 121 London 1918. In this report MacNalty takes up in detail the modes of onset and the symptomatology and pathology and illustrates a number of cases. There is a certain similarity between this disease and poliomyelitis. There is the same widespread and yet scattered occurrence, the same relatively low infectivity from likely the same mode of infection from the nasal secretions, and further it is very seldom that more than one member of a family is attacked. There are also in the two diseases abortive cases which probably are the ones which spread the infection.

The fact that the disease attacks the structures at the base of the brain, particularly the optic thalamus, the tissue in the neighborhood of the aqueduct of Sylvius, the pons and the medulla gives a most bizarre character to the onset. Probably the most common mode of onset is with headache and diplopia, with or without some ptosis of one eyelid. I have personally seen about twenty cases in which the modes of onset have been as follows: One woman complained of inability to find the correct word to express her meaning. She then became somewhat stuporous and talked ir-

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*Read before the St. Louis County Med. Soc., Duluth, Minn., April 10th, 1921.

rationally. One case apparently in the best of health suddenly had a hemiplegia and rapidly passed into coma, dying inside of three days. Another case began with headache, rapidly developed coma with shallow respirations, tense and slightly swollen abdomen, which resembled peritonitis. Another case had a purulent discharge from the right ear, developed headache and coma and it was a question of a brain abscess, or of encephalitis. It was proven by autopsy to be encephalitis. Several cases began with mental disturbances and were sent to sanitariums for nervous diseases because it was thought that they were developing various forms of acute psychoses. One case had the most profound sweats which I have ever seen with no stupor but with contractions of the muscles all over the body. Later these contractions were confined to the abdominal muscles, stupor developed, retention of urine, delirium alternated with stupor and death occurred. In the literature there are reports of a number of such cases and the term "myoclonic form" has been given to these cases. J. Ramsey Hunt[1] reports cases which he calls sporadic which were seen by him several years ago and other cases seen since 1918 which he calls epidemic form. There are also cases reported where the symptoms resemble tetanus, or there was such wild delirium and such objection to water that the case suggested hydrophobia.[2] It is thus seen that the onset may not give any indication whatever of the disease itself. It would seem to depend entirely upon what particular structures of the brain in any particular case are most involved.

One of the first cases I saw over three years ago was that of a young man who became ill with headache, slight fever, delirium and intermittent contractions of the muscles of both legs, especially the thighs. When I saw him he was quite rational, there were no fever and no contractions. I had never seen a case of epidemic encephalitis, consequently was at a loss for a diagnosis. I guessed some mild form of paramyoclonus multiplex. I know now that it was one of the milder types of the myoclonic form of encephalitis. These so-called myoclonic forms resemble in some respects the disease known as paramyoclonus multiplex. There is this essential difference, however, that the movements in paramyoclonus usually take in groups of muscles so that the part, leg or arm, may be violently jerked. In the epidemic myoclonus the contractions are all of single muscles or parts of muscles. They are not sufficiently violent to move the leg or arm. Occasionally they are as regular as if the muscle were stimulated by an electric current. Attention has been called to the abdominal contraetions[3] as a sign of encephalitis. While this is a sign in some cases, only a comparatively few of the cases belong to this myoclonic form. Recently there has been a curious epidemic of hiccup. The newspapers have made much of this epidemic. It is possible that many cases have been due to moonshine liquor, but other cases certainly were not due to alcohol. It has been suggested, particularly by French authors,[4] that these cases of hiccup are mild cases of encephalitis. It is probable that this may be true, although there is no method that we yet know of proving this supposition. However, Netter[5] and others have recently placed on record cases in which encephalitis followed several days of uncontrolled hiccup and also cases where those in contact with epidemic hiccup cases later developed encephalitis.

In general the cases begin something in the following way: A man in perfectly good health suddenly develops a headache, he complains of dimness of vision, or of seeing double, the headache becomes more severe, it is located in no special part of the head, he begins to feel weak, cannot keep awake and takes to bed. There is fever, usually only slight, up to 100 or 101, although it may be higher and just before death may reach, as in one of our cases, 108. The stupor is not so profound that the patient cannot be aroused by loud talking, but he at once relapses into the stupor. Often the stupor alternates with delirium, giving rise to such expressions as the "talking sickness" where the patient has illusions and hallucinations, is disoriented and babbles more or less incoherently. The pulse is usually increased in rate and the respirations are often somewhat increased.

The leucocytes are in the majority of cases increased in number. The reflexes show great variability. At times there is exaggeration of all reflexes, again there is diminution. Cases are found in which there is the Babinski phenomenon on one side, or it may vary from one side to the other. The localization of the virus in the brain accounts for this variability of reflex response, in fact if one bears in mind constantly the enormous area

of the brain, the structures which are controlled by the brain and the basal ganglia, one will have no great difficulty in interpreting what seem to be curious types of reaction. An irritant, for example, stimulates a nerve cell. Too much irritation leads to destruction and loss of function of that nerve cell.

The spinal fluid is under pressure, as a rule it is clear, there is some slight increase in the cell count, cases having been reported of 100 cells or even more, globulin is not always present but may be, and some have found by the Lange-Gold-sol test[6] a curve which simulates somewhat a weak curve in the so-called paretic zone. This, however, has not been absolutely confirmed and it is certainly not present in all cases. Further, some have found that the glucose content[7] of the spinal fluid is increased in amount. This may be of some diagnostic help, but it also is not present in every case. There is a curious mask-like expression on the face, the eyes are apt to be heavy, the conjunctivae injected, the general appearance sometimes resembles that in Parkinson's disease. A number of cases have been reported where besides the curious facial expression there was also hesitancy in the gait and some coarse tremor of the fingers, which were present days before the patient finally took to bed. At first there is no change as a rule in the ability to retain the urine, or feces. Later there may be both incontinence and paralysis of the bladder. It is thus evident that the symptomatology is a very varied one. Cases may be seen with only a mild third nerve palsy up to the most fulminating fatal case with hemiplegia.

The incubation period of the disease is not absolutely known, although there is some evidence that leads us to believe it to be about three weeks. Cases are reported from both Italy[8] and France[9] where patients have gone from one place to another and the time elapsing between the visit of the patient was about three weeks.

Complications:

It is a question whether one can really speak of complications because the different symptoms which occur in the various cases are really not true complications, but a part of the disease. However, cases have been reported with a typical Korsakoff's syndrome. So many of the cases are delirious, have curious illusions, hallucinations and often delusions that the occurrence of this syndrome is not to be wondered at. There is also reported intermittent choked disc, meningeal hemorrhage, forms of curious paralyses and paralysis of the soft palate. Then there are cases where there is so much pain that they seem to be either rheumatic or neuritic.[10] One man seen in consultation suddenly developed pains in the shoulders and felt badly. He went to a masseur and was rubbed. The pains left the shoulders and appeared in the hips. Again he sought relief by baths and massage. The next day he had violent headache and acted so strangely that he was sent to a sanitarium for nervous diseases. There he was delirious, with a hallucinatory psychosis, verbigeration and disorientation. There was slight fever and some somnolence. The spinal fluid contained 20 cells, was clear and under slight pressure. He recovered but for several weeks had difficulty in concentration and his memory played him tricks. Bassoe[10] has called these cases the meningo-radicular form. This, however, only gives a special name to a group of symptoms which is often seen and hardly seems to be justified.

Sequelae:

There have been a number of cases reported of mental confusion for some weeks, or even months, following severe or even mild cases of encephalitis. It seems rather surprising in view of the character of the lesions that the cases clear up as well as they do. It is well known that the brain cells cannot survive very severe injuries, nor can they be shut off from their blood supply for many minutes without dying. Destruction of a large area would produce sequelae of different types, depending upon the part of the brain which was involved.

We have seen mild mental confusion lasting for several months, which gradually cleared up. Claude and Laulerie[11] report a case followed by shaking palsy which several months after convalescence was still present. Gutman and Kudelski[12] report a case which occurred in 1916 and in retrospect was evidently epidemic encephalitis. The case developed marked muscular wasting, which became stationary and has persisted to the present time.

Cases are reported (DeMassary and Boulin, Netter, etc.) lasting as long as nine months with

fatal termination. These may be viewed either as chronic cases or as acute cases with sequelae.

Hunt and others call attention to the development of conditions similar to Parkinson's disease. In the acute case the mask-like face is very frequent. After convalescence the palsy, the stuttering gait, the festination, the disappearance of the naso-labial folds suggest the diagnosis of Parkinson's disease. However, the conditon is not true paralysis agitans.

In 31 cases reported by Denéchan and Blanc[13] a number showed mental disturbances persisting in 5 as an amentia for over fourteen months. Atrophy of muscles was pronounced in 2 cases. Two others as sequelae presented the picture of brain tumor but large craniectomy in one disclosed only congestion of the brain.

Differential Diagnosis:

Although the diagnosis of epidemic encephalitis is largely made by a process of exclusion, nevertheless typical cases present a very striking and easily recognized clinical picture. There are certain diseases from which it must be differentiated and it is sometimes exceedingly difficult to make this differentiation. It has been my experience that the disease that is most often confused with encephalitis is tuberculous meningitis. In this disease there is a slow onset, irritation with varying reflexes, very often irregular pupils, double vision, often a clear spinal fluid with a moderate increase in the cells, but there is also as a rule marked rigidity of the neck muscles and Kernig's sign. Then it is possible at times to find tubercle bacilli in the spinal fluid. It is rare in encephalitis to have more than a slight stiffness of the neck muscles and, personally, I have never seen typical Kernig's sign in this disease. An even more difficult differentiation is that from serous meningitis, particularly as the result of alcohol. Here the symptoms and signs may be quite similar, spinal fluid will show practically the same condition and it may be only differentiated by the history of alcoholic excesses. The marked reduction of Fehling's solution by the spinal fluid in encephalitis may help in the diagnosis. In cerebrospinal meningitis the diagnosis should not be difficult. The spinal fluid there is so characteristic that the diagnosis is readily made. We have to diagnose encephalitis from coma due to head injuries. Here the history of an injury, the stertorous breathing, the examination of the head which reveals the injury, the spinal fluid, the usual lack of leucocytosis will enable us to come to a conclusion. From the coma of diabetes and uremia there should be very little difficulty in diagnosis. One has to but to bear in mind that these two diseases produce not only coma but delirium, with also some fever. Careful examination of the urine should settle the diagnosis. Not long ago we had a case of a young man who had had a discharging ear, off and on, since he was five years old. He came in with the history of gradual somnolence, slight fever, weakness and a running ear. Examination and observation in the hospital led us to believe that we were dealing with a case of encephalitis, but just before death his temperature went up to 108 and several ear specialists considered that we had missed a brain abscess. Post mortem examination, however, revealed a perfectly clean brain surface with no inflammation around the bony structures near the ear and typical lesions of encephalitis. To diagnose a brain abscess is often a very difficult matter. If there is a running ear and there should develop coma and fever, it is probably better to operate unless one has all the facilities for making a differential diagnosis. A case in Milwaukee recently showed symptoms much like those of encephalitis and a diagnosis of such was made. There was very little fever until shortly before death. The eye grounds were only slightly hazy, never typically choked. At autopsy a large abscess was found in a frontal lobe. No primary focus elsewhere was discovered. Finally, cases must be differentiated from acute psychoses. I have seen several cases sent to sanitariums, and I know of others, because of the sudden onset of mental disturbances which were thought to be the beginning of dementia precox.

Etiology:

There can be no doubt that the cause of encephalitis is a filterable virus. Enough evidence now has accumulated from all parts of the world so that we can say with reasonable certainty that a Berkefield filtrate of the emulsion of a portion of the brain in a case of encephalitis which is injected intracerebrally into a rabbit will produce typical lesions of the disease in a rabbit. The virus is very much like that of poliomyelitis which Flexner and Noguchi think contains an ultramicroscopic organism. This organism can be cultivated by

means of special technique and can be stained and seen with high powers of the microscope. Exactly the same kind of organism has been cultured from the brains of cases of encephalitis. It is an interesting fact that the virus of encephalitis is not fatal to monkeys, but quite regularly fatal to rabbits, whereas the virus of poliomyelitis is just the reverse. It is practically impossible to infect rabbits with the poliomyelitis virus. Loewe and Strauss[14] have shown that filtered nasal washings from cases in the early days of the disease contain the virus. It is possible, therefore, that the disease is spread, as it is thought poliomyelitis is spread, by the nasal secretions. Thalhimer[15] has been able to culture, infect and culture again, then reinfect for a period of several generations, every time growing out the same kind of globoid bodies. He has also been able to produce convulsive seizures in rabbits by inoculation of virus from a case of the myoclonic type. It would seem that at present there is sufficient evidence to lead us to believe that the globoid organism first discovered by Loewe and Strauss is the cause of this curious disease.

Pathology:

The pathology of these cases is quite distinctive and although quite similar to that of poliomyelitis the lesions of encephalitis are found in the brain rarely ever lower than the medulla, whereas those of poliomyelitis are found in the spinal cord in the anterior horn cells of the grey matter. When a skull is opened, one sees injection of the dura, usually edema and injection of the pia, with occasionally a faint haze over portions of the convexity of the brain. On cut section there is usually slight edema and often fine macroscopic hemorrhages are seen in and near the basal ganglia. Microscopically the small vessels, usually veins, are surrounded by a collar of round cells and there are changes in the large brain cells consisting of nuclear and protoplasmic degeneration. Often the lesions are extensive and can be found on every slide, again one may have to search through several slides before typical lesions are discovered.

Immunologic Reactions:

Although poliomyelitis and epidemic encephalitis have many points in common, even to the point of similarity in the infecting organism and in the pathological reaction of the tissues to the virus, yet there are notable points of difference which seem to establish the fact that the diseases are not manifestations of the same virus in different parts of the brain stem but that they are separate entities.

One of the differential points is the susceptibility of laboratory animals to inoculation with the virus. Whereas the monkey is easily infected, the rabbit is with difficulty infected by the virus of poliomyelitis, just the reverse takes place with the virus of epidemic encephalitis. Again, in poliomyelitis the blood serum of convalescent cases (Amoss[16]) whether in man or monkey possesses the power of neutralizing the virus. The blood serum of recent convalescent cases of epidemic encephalitis has not this power. The blood serum of the former may with reason be used therapeutically but not so the latter.

Infectivity:

From all the data at hand the infectivity of cases for other persons is low. Cases are widely scattered and but rarely is there more than one in a house. Recently, an epidemic has been reported in an institution in England where twelve of the twenty-one inmates were affected and four died.

Contagion, as in meningitis and in poliomyelitis, may occur from healthy carriers. The French report hiccups in a member of a family followed by encephalitis in another member. In one of Netter's cases there was an interval of eleven months between the appearance of the disease in the two sisters. Roger and Blanchard[17] cite a number of cases of contagion. In one clear cut case of two recruits sleeping in adjoining beds the interval between the illness of the men was fifteen days.

Claude and Laulerie[18] cite cases of very probable hospital infection. In one case the young woman acquired the disease one month after she had entered the hospital for epilepsy. There had been three cases in the hospital and a convalescent one with postencephalitic shaking palsy who was still in hospital.

These observations complicate the problem greatly. The carrier state must be present in many persons just as it is in many other infectious and contagious diseases. We do not know why they are and our means of knowing are limited. At best we can watch the cases of epidemic hiccup and handle them as possible carriers.

Mortality:

It is not possible to form any conclusion as yet as to the actual mortality. Reports of groups of cases have varied from 13 to 60 per cent. The cases I have seen have been quite severe, the mortality ranging about 35 per cent. One must not lose sight of the fact that there are many mild cases. Prolonged stupor and myoclonic forms usually mean grave prognosis.

The disease is a serious one and should be viewed in this light.

In regard to treatment there is no specific. Some give urotropin in large doses, others use elimination. Some have tried arsphenamine with no results.

Netter recommends the injection of turpentine into the thigh in order to produce sterile abscess.

Recently Cheinisse[19] reports on this treatment and states that abscess developed in 67 of 83 cases so treated. The mortality in this group was 7.46 per cent.

The best we can do is to support the patient by every means at our command and so assist his immunity processes to combat the infection.

NOTE: Since this paper was read, there have been many articles in which are reported various complications and sequelae. The most tragic sequelae of all are the evidences of mental disturbance and true psychoses which are found at least three years after the acute illness.

(M. Grossman, *Jour. A. M. A.*, 78:959-962, April 1, 1922.)

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HYDRONEPHROSIS.

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Hydronephrosis, or pyelectasis, as the condition has been more appropriately designated by Herrick (Journal Urology, Vol. 5, No. 1, page 1) and others, is more common than is generally believed by the general practitioner and general surgeon, and deserves more consideration in the diagnosis of conditions in which abdominal pain is one of the chief symptoms. This fact is emphasized by a review of our cases and the reports of others, which show that a large percentage of patients having pyelectasis have had one or more useless operations, directed at the various abdominal viscera, in an attempt to relieve the pain produced by the pyelectasis. This is especially true when the pyelectasis is on the right side. Because of this, I do not think it unwise to call the attention of the profession to the advisability of bearing this condition in mind constantly, and when considering a case which is obscure, of having a urological examinaton for the purpose of at least ruling out a pyelectasis.

Much has been written about the etiology of pyelectasis. One of the best contributions of recent date to this phase of the subject is that of Herrick, whose classification of the etiological factors I give in a condensed form:

I. Congenital.

II. Acquired.

1. Predisposing factors (partly congenital, becoming active because of some acquired condition).
   a. Renal mobility.

b. Ureteral fixation.
c. Accessory structures.
2. Active factors.
a. Inflammatory.
b. Traumatic.
c. Neurological.
3. Direct factors.
a. Obstructive.
b. Motor insufficiency (failure of peristolsis).
c. Urinary secretion.

In considering these causes, whether they be of a congenital or acquired nature, there is one thing which should be borne in mind, and that is that in all cases *obstruction*, either partial or temporarily complete, must be present.

The symptoms are variable. In some cases there may be a history of repeated attacks of the so-called typical renal colic pains, frequently seen with the passing of renal calculi. From this colicky pain there may be all degrees of variations. The patient may complain simply of a dull backache in the lumbar or sacral regions, which if entirely unilateral should make one suspicious of a pyelectasis; or, the pain may be entirely abdominal and may be in any quadrant. Frequently the pain is the only symptom. In the later stages, however, infection usually occurs, and this in turn sets up some inflammation in the bladder with the resulting symptoms of frequency and dysuria.

Occasionally it is possible to get the history of intermittent voiding of large quantities of urine, but little significance can be attached to this, as patients will often give this history when no pyelectasis is present.

With the infection there may also be the usual constitutional symptoms resulting from the absorption of the toxic products. Hematuria occurs rarely. The diagnosis, which may be suspected from the history and physical findings, is confirmed by means of cystoscopy and pyelography.

On cystoscopic examination it may be possible to locate the point of obstruction. If the ureteral catheter enters the pelvis of the kidney and the contents can be withdrawn, a positive diagnosis can be made from this alone. It is not safe, however, to make a negative diagnosis with a negative withdrawal test alone. In this case a pyelogram should be made. The pyelogram with the dilatation of the pelvis and calyces is characteristic. Early diagnosis is important as the kidney may be saved.

The treatment consists entirely of surgical procedures and if the case is advanced nephrectomy is necessary. In early cases, however, the cause should be sought and corrected if possible, and the kidney saved. This is possible in many cases when the obstruction is due to a stone, aberrent blood vessels, in some cases in movable kidneys, etc. In some cases plastic procedures on the kidney pelvis are of value, but as a whole they are not satisfactory.

The following cases seen recently are of interest and worthy of mention.

36216—A young and well developed man of 22 came to the clinic complaining of attacks of pain beginning in the region of the right kidney and radiating forward. Attacks usually lasted two or three days. Recently there had been a constant dull pain in the right lumbar region. Trouble began two years ago. One year ago consulted surgeon who said pain was due to appendicitis and appendix was removed with no improvement in symptoms. Had consulted many doctors since operation and most of them said that symptoms were due to nervousness.

Physical examination revealed nothing of importance except a little tenderness in the right costo-vertebral angle and over the scar from operation.

Urinalysis was as follows: Specific gravity 1020, reaction: acid; no pus, blood, albumen or sugar. Leucocyte count was 8,200. Radiograms of kidneys, ureters and bladder were normal. On cystoscopic examination the bladder was normal; normal spurts of urine were seen coming from both meatus, both ureters were catheterized without difficulty. The differential functional test returned from the left side in 4 minutes but did not return from the right in 18 minutes. 7% of the dye was collected from the left side, 25% from the bladder and nothing from the right side in 15 minutes. Drainage from the left side was very poor and accounts for most of the dye being in the bladder. A pyelogram was taken on the right side and showed the pelvis and calyces dilated to enormous sizes.

Diagnosis: Large right non-infected hydronephrosis with a functionless kidney.

At operation the findings were confirmed. Very little renal tissue remained. A nephrectomy was done. Convalescence was uneventful.

This is a classical example of the type of case that is so often overlooked by the general sur-

geons and results in much suffering on the part of the patient, unnecessary operations and frequently the stamp of the "neuro". These non-infected hydronephroses are not uncommon and are not difficult to diagnose when complete urological investigation is made.

29517—Male, aged fifty. The patient had dull pain in lumbar region of back, especially on the left side for ten years. For the past four months had generalized aches and pains, which were getting worse, and which were worse in damp, cold

Case number 29517, showing marked dilatation of pelvis and calyces.

weather. He had had considerable loss of strength and had lost fifteen pounds in weight. For two months had nocturia five to six times, with some dysuria. Had much medicinal treatment with no relief.

Examination: Patient was a fairly well nourished man, who looked sick. Had considerable tenderness in left flank; left kidney apparently enlarged. Radiographic examination of kidneys, ureters and bladder was negative. Examination of urine showed much pus; blood urea 37 mg. per 100 c.c., combined functional test for two hours and fifteen minutes 40%.

Cystoscopy: Bladder showed a slight low grade cystitis. Spurts of urine were seen coming from both meatus. Both ureters were catherized without difficulty. There was no apparent obstruction. Differential functional test returned from the right in three minutes, no return from left in eighteen minutes. The total return from the right in fifteen minutes was 15%; left 0; bladder 9. Pyelogram taken on the left side showed a very marked dilatation of pelvis and calyces. Urine from the left side showed pus 3 (on scale of 1-4) and on the right was negative.

Diagnosis. Left infected hydronephrosis with functionless kidney. At operation the diagnosis was confirmed. The hydronephrosis was very large requiring aspiration before removal. Contained a large quantity of pus. A nephrectomy was done.

28255—Male, aged eighteen. Patient had had five attacks of severe pain beginning in the region of the right kidney and radiating forward. The first attack occurred when he was sixteen years of age, duration of each attack from one to three days; no urinary symptoms.

Physical examination revealed nothing of im-

Case number 28255, showing large pelvis and calyces.

portance, except a little tenderness to pressure over the right kidney.

Radiographic examination of kidneys, ureters and bladder was normal.

Examination of urine showed a few pus cells.

Cystoscopy: Showed a normal bladder with

normal spurts of urine from both meatus. Catheterization of both ureters was normal. Differential functional test with phenolsulphophthalein gave a normal return from the left side and no return from the right side in two hours and fifteen minutes. A pyelogram on the right showed a marked dilatation of the pelvis and calyces.

Diagnosis: Right hydronephrosis with functionless kidney.

Nephrectomy was advised and as the patient was a University student he went home for operation and has not been heard from since.

27951—Married woman, twenty-eight years of age. The patient complained of attacks of severe pain in the left upper quadrant of the abdomen radiating to the back. She first began to have the attacks when fifteen years of age, and for the past year had averaged one a week. Duration of each attack was from one to two days; some frequency and dysuria.

Physical examination revealed nothing of importance. Miscroscopic examination of catheterized specimen of urine showed pus 2, combined functional test for two hours and fifteen minutes was 45%.

Case number 27951, showing an occlusion of the ureter with no medium entering the kidney pelvis.

Cystoscopy: Showed a mild low grade chronic cystitis. Normal spurts of urine were seen coming from the right, but nothing from the left. Catheterization of the right side normal; on the left an obstruction was met at about 20 cm., drainage from the left side poor. Differential functional test gave a return of 15% from the right, with nothing from the left and nothing from the bladder in fifteen minutes.

Miscroscopic examination of catheterized specimen of urine showed pus 3 on the left, and was negative on the right.

Pyelogram showed a normal ureteral outline at the level of the fourth lumbar vertebrae with no medium above this point.

Case number 29578, showing enormous pelvis and calyces.

A second cystoscopic examination was made a week later with exactly the same findings.

A diagnosis of hydronephrosis was made and exploration was advised. As the patient was two months pregnant and as she had noticed in the past that her pain was more severe during the latter months of pregnancy, she desired immediate operation, which was done and a large infected hydronephrosis found. A nephrectomy was done and convalescence was uneventful.

29578—Married woman, aged 23. Four weeks after a severe blow to left flank. Five years ago began to have severe attacks of pain in the left side midway between anterior-superior spine of

the ilium and the costal margin. Pain came on suddenly and left suddenly. Between attacks she felt good; at times had chills and fever with attacks.

Examination of urine showed pus 3 in catheterized specimen. Physical examination showed a markedly enlarged kidney on the left side.

Cystoscopy: Bladder normal except for a little cystitis cystica around left meatus. Both ureters catheterized normally. Differential functional test gave a return of 18% from the right and nothing from the left in fifteen minutes. Microscopic examination of catheterized specimen of urine showed pus 3 on the left side and was negative on the right. A pyelogram on the left showed a marked dilatation of the pelvis and calyces.

Diagnosis. Left infected hydronephrosis; kidney functionless. At operation the diagnosis was confirmed. A nephrectomy was done. Convalescence was uneventful.

SUMMARY.

1. Pyelectasis is not an uncommon condition.
2. In all cases of abdominal pain in which the diagnosis is not evident, a complete urological examination should be made for the purpose of determining if a pyelectasis is present.
3. Early diagnosis is important, as it may result in the saving of the kidney.

DILATATION OF THE DUODENUM.

BY W. J. TUCKER, M. D.,

ASHLAND.

Chronic dilatation of the doudenum is met with not infrequently in the course of surgical operations. But true giant duodenum or megaduodenum is a very rare clinical and surgical entity. In a review of the literature we were only able to unearth reports of but eight cases. In the records of the Mayo Clinic, of something over 230,000 cases we came across only two cases. Of the various types of dilated doudenum there were 26 case reports. The condition itself is of interest as offering a program both for clinical diagnosis and therapuesis as very little relief is offered by the present status of either medical or surgical procedures.

Etiologically there has been much speculation as to the factors involved. Bloodgood classifies these cases, namely:

1. Dilation as associated with acute dilatation of stomach, gastromesenteric ileus, as a post operative complication—typhoid pneumonia—rheumatism.

2. Chronic dilatation with distended cecum, short mesentery of ileum pulls on the mesentery at the duodenô-jejunal angle and causing a kinking and dilatation of duodenum.

3. Dilatation of duadenum after gastro-enterostomy due to duodenum being closed at both ends.

Practically all authors are agreed that the condition is rarely, if ever, congenital—that it is post natal and mechanical in its origin. Various are the opinions offered. Lane thinks that the condition is one due to ptosis of entire intestinal tract, with accumulation of fecal matter in cecum and ileum, resulting in a pull on duodeno-jejunal angle and a consequent dilatation of duodenum. Christian: that the condition is due to gastric atony and pyloric relaxation. Ochsner: that it is due to a constriction of a sphincter muscle which he states exists aboral to the common duct papilla.

Barker in the Annals of Surgery, 1915, offers an interesting theory founded on animal experiments. He found that incomplete obstruction of terminal ileum gave rise to a dilated duodenum, while a complete obstruction caused no change or increased tonicity of duodenum. Further that a purulent typhilitis gives rise to no change or a decreased dilatability of proximal duodenum.

That there is a close relationship between the ileum and duodenum has been observed by Alzarez who made the observation in the course of experiments on ligation of the ileum that segments of the duodenum did not beat well, rhythm was poor and fatigue came early when the peristaltic wave of the ileum was interfered with. He seems to think that an incomplete obstruction permits of the free intercommunication of duodenum and cecal nervous centers through Auerbach's plexus, while a complete obstruction interferes with same. That the condition of dilated duodenum may be nervous or reflex in origin is further suggested by the finding of the condition in patients suffering with gall-bladder or appendix syndrome. In the condition of megaduodenum a fair percentage of cases reported were found to be due to constriction or kinking at duodeno jejunal angle and by reason of peritoneal bands. Again in some cases no cause was found for the condition. Pathologically in the milder forms of dilated duodenum no demonstrable changes in intestinal wall or in ad-

jacent structures are found and in 15 of the 26 cases at the Clinic no causes were found in the G. B. and appendix and patients were not relieved by operation.

In giant duodenum, however, definite pathology is found in the intestinal wall, extreme hypertrophy of the muscle structure of the intestinal wall with changes in mucosa and glands, the duodenum being as large, in some cases two to three times larger than the stomach.

In seven cases of the Clinic series, the ileum or duodenum failed to rotate to the left and in one case definite compression of duodenum was produced by the superior mesenteric artery, also by compression from T. B. gland.

In summing up the causations given for these conditions we can state that a majority were found to have no demonstrable cause and were not relived by any form of treatment instituted.

Symptomatically aside from the more pronounced forms of dilatation and in those associated with definite gall bladder and appendix lesions, nothing characteristic or pronounced could be worked out.

Patients were usually female, average age about 30 years, of a distinct neurotic type and tendency. Pain, when present, was indefinite in extent, amount and location. Digestive symptoms were irregular, some suggesting duodenal ulcer, others a reflex origin.

Stomach analysis revealed nothing characteristic and x-ray not typical. A definite symptomatology, however, could be worked out in the cases of giant duodenum that were reported. Patients, usually young males, in whom vomiting was a constant symptom, large in amount and recurring, food eaten one to three days before being regurgitated, distention. and gas. Objectively peristaltic waves were frequently observed not as in pyloric stenosis from left to right, but from right to left. X-ray in these cases has been very characteristic and diagnostic. As regards prognosis, little can be promised these cases. Finney stating that when he came across these conditions he closed the abdomen. However, when definite pathology has been found either reflex or mechanical conditions, some of the cases have been relieved, but in 50 per cent of the Clinic cases of various degrees of dilatation, no cause was demonstrable. Of the cases of true giant duodenum, 50 per cent had demonstrable mechanical cause. Four of the eight cases were relieved by operation and three died following operation. One case having little or no relief.

The treatment of this condition as proposed has been essentially surgical. In the milder forms of dilatation it has been directed against any demonstrable cause either reflex or mechanical. In the giant form of dilatation, the theoretically correct procedure first proposed by Bloodgood and first practiced by Stavley of John Hopkins has been duodenô-jejunostomy. Gastroenterostomy was done in six of the eight cases with occlusion of the pylorus in two cases. Duodenô-jejunostomy was done in the one case on record at the Clinic. Theoretically a short circuiting operation is the logical procedure. Downes of New York suggesting in addition to the entero anastomosis is a gastroenterostomy 15 cm. from the duodenô-jejunal angle.

In brief the finding of any of the forms of dilated duodenum at operation should institute a search for a mechanical or reflex cause, mechanical in a constructing band either arterial or fibrous at the duodenô-jejunal angle, or reflex in appendix, gall bladder or ileo cecal stenosis. (A fair percentage of the causes will be found.) In the more exaggerated forms a direct operation on the duodenum itself short circuiting in value is necessary before any relief can be expected.

A SERIOUS MENACE.*

BY O. B. BOCK, M. D.,

SHEBOYGAN.

In our attempts before the Legislature to have a bill passed which shall require of the applicant for a license to practice the healing art, an education in the sciences commensurate in a reasonable degree, with the responsibility assumed in practice, we again meet with an indifference, if not a definite antipathy, which is quite incomprehensible on the basis of honest intent and fair dealing on the part of the medical profession. To those of us who believe in licensure for the purpose of conservation of human life, these are very discouraging facts. If this were true in but one or two of the United States, the cause might be thought local, but when the condition exists practically throughout the whole country, and when it

*Read before the Ninth Councilor District Medical Society, July 21, 1922.

has existed with little change in the past third of a century, it must be evident that there is a deep-seated cause or causes for apathy on the part of the public. I do not mean to say that Statutes have not been enacted in different states which require high standards of education of the medical graduate, but in nearly every instance, when this has occurred, either other laws have been passed which provided for the practice of the healing art on lesser educational qualifications or the high standards are nullified by jury decisions. It is not difficult to have a law passed which will require of the medical man adequate educational qualifications, providing the cultist shall be given a board which may license on qualifications he may predetermine. The average legislator seems to view the matter in the light of give and take. He may give the medical profession what it wants, providing the cultist may have what he wants. In other instances he may know something of the value of a scientific education, and yet have no comprehension of the subject from the standpoint of conservation of human life. In this group I must place the able floor leader for our chiropractic friends. Since the public through its jurors and legislators, as well as through its employment of such hosts of uneducated men and women to treat its ills, shows that it is not in accord with our contention for educational standards and seem in many instances distrustful of our motives, it is high time that we recognize the truth, consider the cause or causes and meet it or them as a great body of educated men, actuated by altruistic purposes should. Insofar as our motives are altruistic, they should be spread broadcast in such a manner and form that no one of average education can fail to understand. Dr. David A. Strickler, of Denver, Colo., suggests: There should be organized a strong central body of national scope with an active field secretary to educate the public on the benefits of vaccination, animal research, and public health activities, and to protect it from the medical freedomists and all others who aim to lower the standards of medical education and licensure, or to jeopardize public health in all other ways.

The causes for distrust of our aims are probably many—too many to consider at this time, but they may easily be divided into two classes, viz.: those from without and those from within the medical profession. Of the former may be noted propagandism of all persons and classes who for one or another selfish reason oppose the medical profession. *These are headed by the cultists who without reasonable education are seeking easy entrance to the rights to practice the healing art,* the Christian Scientists who on general principles oppose the medical profession, but who especially object to any coercive measures which compel submission to vaccination and other measures of public health authorities to prevent spread of contagious diseases, a large number of persons believe that no measure should be passed to prevent anyone from treating any person who may wish his treatment, together with a host of more or less well-meaning but misguided sentimentalists who would prevent all advance in scientific medical research through prevention of animal experimentation. These various classes, each with its own purposes to serve, and each with its own organization have joined in one general national body—"The League for Medical Freedom"—to oppose the medical profession by any and all conceivable means through propagandism which is thoroughly organized and well financed. There has perhaps never been anything approaching the Chiropractic organization to further a cause of *so little inherent merit, with schools lacking in all the essentials of scientific training* and yet with an assurance that they have within themselves all that is worth knowing, a self-satisfied air that is quite inconceivable to anyone who has not personally come in contact with them. Such assurance, coupled with a system of commercial advertising, organized and directed by a professional publicity man, and backed by a strong, well financed body contributed to by every man and woman practicing the cult, has an influence that cannot safely be ignored. The question of cultism, anti-vivisection, and anti-vaccination, go hand in hand with the League for Medical Freedom, and should not be disassociated by us.

"What is a Chiropractor?" I quote from "The West Virginia Bulletin":

The theory of this school is, that all diseases are depended on a dislocation or partial dislocation of a spinal bone. We wonder if, during an epidemic of disease, the spinal bones of many people become suddenly dislocated! The discoverer or inventor of this wonderful system of treatment is one B. J. Palmer of Davenport, Iowa. He gave several lectures recently while Dr. Farnsworth of the State Health Department was in Washington, and the doctor heard the lectures and

made a report of what he heard. From this report, we here make some quotations, which will enable the reader to place a proper estimate on a so-called "System of treatment," founded by this man, who has grown rich on the gullibility of human nature. Listen to his ravings:

"All diseases which have been in existence since the building of the Pyramids, are still in existence—not a single progressive step has been taken to cure or check them."

"More disease exists now than ever before, more in proportion are dying, until actually today more people are dying than are being born."

"All medical methods and works are entirely wrong."

"I don't know anything about anatomy. I never dissected a body. The only reason for anatomy is to learn how to do surgery."

"Laboratories are fakes. No disease was ever diagnosed in the laboratory. They make the man fit the thing they call disease. There is no such thing as bacteriology. Miscroscopes are instruments of duplicity. How can they see germs where they do not exist? There has not been a single germ discovered that has ever caused a single disease."

"Chemistry is not worth a damn; it is of no value. I would not give a cent for all the chemistry in the world. I don't know a solitary thing about chemistry, and if I did I would forget it and wash it all out."

"Diagnosis is all guesswork."

"If you follow books you will not get very far. I don't read books. Books are written for people who don't or can't think. I never saw or heard an English scholar who wrote anything worth reading. I don't know anything about Grammar and have just enough sense to know it. Books tell us that germs cause disease, and that we could not live an instant with a single germ in us."

At this stage he villified doctors, scholars, scientists, etc., and then said: "There is no such disease as cancer or tuberculosis. Nothing in medicine is sticking tight. It is changing every year. We Chiropractors have not made a single change in finding or deduction in twenty-five years. 'Subluxation.' Books say it can't be done. Doctors say it can't be done. They know nothing but what they read in books. We Chiropractors began to study and found out. Tell me where you are affected, and I will tell you what nerve causes it, and all about it. We found out these things and then worked out a system of adjustments: so if a fellow has anything wrong with him, we just put him on a table and adjust him. The doctor spends years in college and learns a million things, and not one of them is so. I don't know anything about what is in books; I only know that we adjust backbones and it works. I just know it works, and we get paid for it. I don't know anything about the nervous system."

"We forbear giving any more quotations from this very 'lucid' lecture, believing that enough is here presented to demonstrate that B. J. Palmer is a faker pure and simple, as ignorant as he makes himself out to be, but with just enough native shrewdness, combined with an abnormal amount of 'gall' to impose on a gullible public, or a small part of it, and delude them into thinking they are benefited by spinal rubbing under the name of adjustment."

So much for the menace and now for the way out. Dr. Strickler proposes a nationwide educational and publicity campaign. To rid ourselves of causes of distruct within our own ranks, *such as individuals of thoroughly mercenary motives, who will resort to any means to a selfish end, and who assume knowledge and skill not possessed, for the purpose of acquiring wealth and power not deserved.* He states that the cause within the medical profession having more to do with the distrust of the legislators and the people in general, than all others put together, is the spirit of antagonism and open hostility shown by members of the medical profession to any therapeutic measures, theory or practice, which may be advanced through other than its own approved channels. Never in the history of medicine has it seriously investigated methods of treatment. He recommends the creation of a commission honest in purpose, judicial in temperament of scientific attainments, and with sufficient financial support to make a complete study and ascertain the facts relative to clinical results of any method of treatment used by the different cults.

Dr. Edward Ochsner of Chicago, writes: "What is the matter with the adjustment of medicine and medical laws to the public needs, and what can we do to relieve the difficulty? Homeopathy was a protest against empiricism in medicine and against horse medicine in horse doses for human beings. Homeopathy was supposed to be based on a rational principle, namely: 'similis similibus

curantur'." As a matter of fact, it was not a rational system of medicine and hence could not survive. When regular physicians substituted elegant pharmaceutical preparations in suitable doses for nauseous drugs in excessive doses, and employed rational medicine based on a knowledge of pathology and bacteriology, and when careful scientific observation and investigation supplanted empiricism and pseudo-rational theories, homeopathy had fulfilled its purpose, and died a natural unmourned death. The new menace is Christian Science, osteopathy, chiropractic, napropathy, and other visionary systems that are springing up constantly. However, let us not rage against, for all of these pathists are in part at least, but a protest against our neglect of a certain group of minor though very distressing afflictions from which the public demands relief. Every community has a small percentage of citizens who belong to the class so accurately described by Barnum,—who are not happy unless they are buncoed. If the medical profession were 100% perfect, these would still be running to the quack. But when we become nearly 100% efficient, when we are willing to make a careful study and to learn how to treat these minor, though very distressing afflictions; when we will meet this menace squarely and treat every ailment better than any of these insufficiently trained and pseudo-scientific intruders can, then will it become almost neglible. I believe in the statements of Drs. Ochsner and Strickler and much good may come of their suggestions, but I believe in organization. Had I had a well organized handful of men with me during the last session of our Legislature, and a little more financial aid, I would have rid the state of this menace, as you can readily see by looking over my report of the vote on my bill.

I will be on the job next time, with a better organized force, and a little money, and I hope to be able to report:

That the operation was successful and the patient lived.

HOOKWORM DISEASE.

Carbon tetrachlorid given by C. N. Leach, Manila, P. I. (*Journal A. M. A.*, June 10, 1922), in 10 c.c. doses to a man produced no ill-effects as far as could be seen on microscopic examination. Twelve cubic centimeters of carbon tetrachlorid removed all hookworms and ascarids. The drug apparently had little effect on trichurids and oxyurids.

THE X-RAY AND CLINICAL FINDINGS IN THE NORMAL CHEST OF THE CHILD.

REPORT OF THE CLINICAL DIVISION OF THE COMMITTEE ON MEDICAL RESEARCH OF THE NATIONAL TUBERCULOSIS ASSOCIATION.

The value of Roentgenography in determining the presence of pulmonary disease has long been recognized. Studies to determine the roentgenograms of various pathological lesions of the lung have been almost without number, yet much difference of opinion exists in the interpretation of findings, largely because no satisfactory observations have been made establishing the variations that may occur in the normal. To one observer, shadows noted are indicative of disease; to another, they are not evidence of a pathological process; to one, they represent lesions of clinical significance: to another, they suggest changes of no moment. The realization of this unsatisfactory state of affairs was widespread but it remained for the Research Committee of the National Tuberculosis Association seriously to consider it and to set about to correct the shortcomings.

In the spring of 1920, that Committee called together the collaborators in this work and instructed them to set about in ways of their own choosing to solve the problem, extended to them a financial grant and in order that the problem might be a very definite one, asked that the immediate study be limited to a consideration of the chests of normal children between the ages of 6 and 10 years. The work was begun promptly and a preliminary report was made at the annual meeting of the Association in May, 1921. The findings at that time were incomplete and because of the then limited observations, no very definite conclusions were drawn. However, the practical need of a solution of the problem was apparent. Study was continued throughout 1921 and the first four months of 1922, and the data independently assembled were jointly discussed to evaluate them. Although each pair of workers carried on its investigations without intergroup consultation, although each approached the subject from a different angle and when first met held views apparently not altogether in accord, it was agreeable to find that an exchange of conclusions disclosed almost an unanimity of opinion. The findings of these six observers—three clinicians and three roentgenologists—are presented to you for your consideration:

Theoretically, the normal child is one of ideal height, weight and development for his age, without subjective or objective evidences of deformity or of disease and without residual changes due to antecedent pathological processes. Practically, a normal child is one of average height, weight and development for his age, symptom-free and without signs of disease. Each such individual, in more or less relation to his age, will have been ill more or less often and as a consequence may be expected to show variations from the ideal, not because of present diseases, but as a result of residual changes that persist. An appreciation of these facts makes it apparent that the findings, clinical and roentgenographic, in normal children as we meet them will vary greatly from any fixed standards and still must be considered as variants of normal.

The clinical data dealt with in this report were obtained by careful examination of apparently healthy children between the ages of 6 and 10 years. All children who showed signs of disease were excluded from the series. Individuals from various strata of society, foreign and native born, residents of urban and of rural communities, school children and children residing in institutions, children exposed to tuberculosis and some without a history of such exposure, children with and without a history of previous infectious diseases, all symptom-free, and of an approximately normal height and weight for their ages, were studied. A history of each individual was recorded and in making the examinations of the chest, care was always observed to have the child relaxed and to see that no cramped or unnatural posture was assumed, for, as is well known, faulty position may lead to findings that cause confusion in interpretation. In addition, a tuberculin test was made on every child. The clinical data were then assembled and after the roentgenologist had interpreted his plate independently, the clinical and roentgenographic findings were correlated.

In all, over 500 children were thus studied and as a result some definite conclusions seem warranted.

As in the adult, so in the child vocal fremitus is more marked over the right upper chest than over the left.

It is generally stated that the percussion note elicited over the lungs of normal children within the age limits under consideration, is fuller, more tympanitic, of higher pitch and more resilient than that noted over those of adults, and that frequently the tympanitic quality is quite outspoken, especially over the lower lobe of the left lung. Although in general our observations confirmed this view, we have been impressed by the fact that in an appreciable number of such children, the note obtained on percussion over the lungs is indistinguishable in quality from that elicited over the lungs of normal adults and that the usual resilience of the note is lacking. These findings in many instances have an analogue in shadows noted in the X-ray films, shadows indicative of increased density along the bronchial tree, similar to those seen in the plates of normal adults. This correlation of the findings on physical examination and on X-ray study is more constantly possible in studies of the upper half of the chest. When minor changes, similar to those discovered by X-ray examination of the upper lobes, occur in the bases, they usually escape detection on physical examination. In those instances, in which no shadow is found to explain the deviation of the note from the generally accepted one, it is our belief that the lack of resilient quality may be due to a decreased elasticity of the chest wall.

The so-called tympanitic quality of the percussion note over the left base may be increased, decreased or be entirely lacking, depending upon the degree of distention of the stomach or colon, the curvature of the spine, and may likewise vary with the position of the diaphragm or with the posture of the child during examination. The note over the upper thorax is often the same on the two sides. Kronig's Isthmus averages 5 to 6.5 cm. in width. The lower margins of the lungs posteriorly are at the level of the 10th or 11th rib and descend from 1.5 to 3.5 cm. during forced inspiration.

A just detectible diminution of resonance over the apical regions is of no significance unless associated with a modification of the breath sounds in those areas or with other abnormal auscultatory findings.

It is generally accepted that normally in childhood, the breath sounds have a harsh, sharp character, with expiration longer and better heard than in the normal adult. This so-called puerile breathing is physiological and though it may seem trite, let it be emphasized that this exaggerated vesiculo-bronchial respiratory murmur, especially

well heard in the areas overlying the great bronchi (i. e. anteriorly at the level of the first interspace and the second rib just lateral from the sternal margins, and posteriorly, particularly on the right side, at the level of the 2nd to the 4th spine) is often incorrectly interpreted as evidence of pulmonary disease. An ausculatory finding that has not been pointed out, or at least, has not been emphasized, has come forcibly to our attention in carrying out this study. Just as the full, deep note or higher pitch characteristically elicited by percussion of the child's chest is often replaced in health by a note more like that produced when one percusses the normal chest of an adult, so, on auscultation of a child's normal lungs, the exaggerated or puerile breath sounds may be lacking, and instead the so-called vesicular respiratory murmur characteristically present in adult life is heard. This finding, regarded by us as a physiological variation, has been noted as early as the age of four years and may perhaps occur in younger children. It is more readily appreciated and more often found than the variation in the percussion not just described. In more than 50 per cent of the children in which this type of breathing was heard, examination with the X-ray gave findings like those obtained by a study of normal adult chests. In fact, the agreement of clinician and roentgenologist was so constant that we have come on the basis of these variations to designate the chest of normal children as of "puerile" or of "adult" type. The essential fact to be stressed is that so-called vesicular respiration is heard with great frequency in normal children, and is to be regarded as a variation of normal and not necessarily as an indication of disease.

These variations and those of the percussion note are more generally found in children with a history of infections of the respiratory tract. No satisfactory explanation for this finding is offered. It may be due in part to altered resilience of the chest wall, a suggestion supported by the fact that in some instances in which it was noted, diminished elasticity of the thoracic wall was apparent on percussion. It may stand in relation to variations of elasticity of the parenchyma of the lung. It may be due to a relative narrowing of the lumen of the bronchial tree. It is hardly to be considered evidence of increased density of respiratory tissue, for, theoretically, at least, that should lead to a modification towards bronchial breathing.

Concerning the whispered voice sounds, little comment needs to be made other than to emphasize their loud transmission often with syllabation over the region of the major bronchi. Ausculation of these sounds over the upper thoracic spine of the children has led to the conculsion that D'Espine's sign as indicative of enlarged tracheo-bronchial lymph nodes is, to say the least, of doubtful value. In 23 of the children, this sign was elicited without other signs of a mediastinal mass and without any corroborative evidence on X-ray examination. In 3, the sign could not be elicited, although from the X-ray plate it might have been inferred that it could be. Eustace-Smith's sign is so generally present in normal children that it is of little or no practical diagnostic worth. The presence of these two signs together with impairment of resonance in the interscapular region is all too frequently made the premises for a diagnosis of tuberculosis of tracheo-bronchial lymph nodes. This is unwarranted for, as indicated, these signs are unreliable evidence of a pathological condition and the determination of a diminution of resonance in the interscapular region requires such a nicety of technic that even masters of percussion disagree as to the presence or absence of significant findings in this region of the chest.

A year ago, in the preliminary communication to this Society, we stressed the importance of the role that antecedent infections might play in the production of areas of increased density within the respiratory tract. (Bronchial tree, parenchyma of the lungs, etc.) This fact is reemphasized, for further study has established the importance of it. Not only may recognized or remembered infections of the bronchi and lungs be responsible for alteration in these tissues, but other diseases not ordinarily considered of significance in this regard may be causal of such changes. For example, our observations indicate that after measles, pertussis or tonsillar infections, areas of increased density radiating from the hilum into the bases especially, occur with great frequency. Such lesions generally are not discoverable on physical examination and would be unsuspected but for the use of the X-ray. They are referred to in the clinical part of our joint report in order to point out the need of a careful history as well as examination in all individuals, before proceeding finally to interpret the findings of the Roentgenologist. By way of digression, it may be interest-

ing to point out the fact that though measles and pertussis have been known to produce lesions in the upper air-passages, involvement of the lower tract has been considered a complication and was thought to occur only when evidence of bronchitis or of broncho-pneumonia were discovered. Our observations indicate that there may be a mild inflammatory process throughout the respiratory passages in a large percentage of the so-called uncomplicated cases of these diseases. This suggestion warrants further study in relation not only to the infections under consideration but also other infectious diseases. That such shadows, mediastinal and basal, noted in children who give a history of uncomplicated measles and pertussis are evidence of healed processes is evidence of the experience that similar shadows of like origin have remained unchanged and without the development of clinical symptoms in a series of children observed from 3 to 5 years. Such changes must be properly evaluated as indices, not of present diseases, but of lesions past and healed, not as warrant for the diagnosis of present illness and the institution of treatment, but as scars of infections met and overcome.

Most of the children included in this study were tested with tuberculin—some were given a cutaneous test with old tuberculin (Pirquet)—others were tested by the intracutaneous method. (Craig).

The forgoing facts have been detailed at some length to establish the major thesis that, clinically, the ideal, normal child is a hypothetical impossibility. Children, apparently healthy, symptom-free and active, show on careful examination many deviations from fixed standards, variations that must be interpreted as within physiological limits; standards of height and weight must be elastic; measures of resonance and of resilience of the chest must not be rigid and estimates of acoustic phenomena must permit of a range of difference from the ideal. These facts, clinical experience establishes beyond peradventure, and they suggest a corollary, namely, that X-ray examination of the chest of such children may be expected to show comparable deviations from a fixed ideal roentgenogram.

The studies reported, fortified by past experience, warrant the following conclusions:

(1) The data obtained on percussion and auscultation of the lungs of normal children show wide variations from a fixed standard. These variations are usual and are considered to be within normal limits.

(2) Inasmuch as the changes referred to are dependent often upon alterations that persist as residua of past infections of the respiratory tract, it is obvious that a careful anamnesis, with special reference to all infections, is necessary if diagnostic errors are to be avoided. Even a history carefully taken is often unreliable, as minimal infections are soon forgotten by many and among the unintelligent classes even more significant indispositions are not readily recalled.

(3) Failure properly to evaluate these deviations from a fixed standard will often lead to the unwarranted diagnosis of disease and to even less justifiable treatment.

(4) With a proper appreciation of the widest variations that the normal may present from the ideal, the informed clinician is better able correctly to understand the findings of the Roentgenologist, and each, cooperating with the other, is less liable to error.

(5) D'Espine's sign as indicative of enlarged tracho-bronchial lymph nodes is of little value.

(6) Recognition of and familiarity with the foregoing data is of cardinal and practical importance to every patient, potential and established. Without a proper appreciation of the facts set forth, no intelligent differentiation between a normal and an abnormal respiratory tract can be made.

In brief, to establish the presence or absence of disease, it is imperative that all data—clinical, laboratory and roentgenographic—must be evaluated and correlated and that no one fraction of the evidence be stressed to the exclusion of the others.

(Signed)
C. R. Austrian,
H. R. M. Landis,
Kenneth D. Blackfan.

May 6, 1922.

MULTIPLE STAGE MEASURES IN THE SURGERY OF SEVERE HYPERTHYROIDISM.

While admitting that there are hopelessly toxic cases in which death is imminent and practically certain, when no active measure is applicable, yet with the plan he has made use of, Frank H. Lahey, Boston (*Journal A. M. A.*, June 17, 1922), believes that when a purely thyroid death occurs in a case considered within the bounds of operability, it will be the results of misjudgment and of consequent attempts to apply too advanced surgical steps as the first measure of treatment, or to progress too rapidly in the successive surgical steps. He details his method.

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EDITORIALS

THE GORGAS MEMORIAL FUND

AT the St. Louis Annual Session the Board of Trustees reported to the House of Delegates that in response to a request received from the directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine for the cooperation of the American Medical Association, the Board had taken action which resulted in the appointment of a committee, representing the American Medical Association, to act on the project. The following were appointed: Dr. George E. de Schweinitz. Philadelphia; Dr. Charles W. Richardson, Washington, D. C., and Dr. Fred B. Lund, Boston.

The House of Delegates unqaulifiedly endorsed the Gorgas Memorial as a tribute to a past President of the organization and one of its most distinguished and loved members. At its recent meeting the Executive Committee of the Board of Trustees received the following statement from the committee and directed its publication.

STATEMENT AND APPEAL FOR COOPERATION

As a result of the stimulating suggestion of President Porras of Panama, it has been resolved that a fitting memorial shall mark the humanitarian service of the late Major General William C. Gorgas, and the beneficent influence of his life and work on mankind throughout the world. Following the thought of President Porras, it has further been decided that this memorial shall take the form of a scientific institute for the study of tropical diseases and of preventive medicine.

No better place could have been selected than Panama City, the gateway between the Atlantic and the Pacific, where General Gorgas' well-planned and executed work made possible the building of the Panama Canal.

It is hardly necessary to call the attention of the medical profession to the far-reaching effects of General Gorgas' work on the welfare of the people of the whole world, especially in tropical and semi-tropical climates, and in all places subject to the inroads of infectious disease.

We of the medical profession remember him as our Surgeon General during the early part of the World War. We remember his prompt recognition of the necessity of bringing into active service large numbers of physicians and surgeons from civilian life. We remember his genial and kindly nature, his high character, and his steadfast effort directed toward the organization and equipment of the Medical Corps of the Army. We remember the patriotic response. We remember him as a great sanitary officer, to whom we wish to pay a lasting tribute.

A central committee has been formed, with Admiral Braisted, retired, ex-President of the American Medical Association, as its president. The American Medical Association has appointed a committee of three to work in accord with the

central committee, and through its members this appeal is made to the American medical profession.

The plan is to build at Panama an institute for the study of tropical and infectious diseases, with a hospital, laboratories, departments for research and all other facilities required in an institute of this character, erected and administered according to the most progressive, modern ideals. The Panamanian government, owing to the far-sighted, philanthropic vision of President Porras, has donated the great Santo Tomas Hospital, and also the ground on which it is proposed immediately to construct the buildings as they have been described. Dr. Strong has been appointed the scientific director.

In conjunction with this work in Panama, there will be established in Tuscaloosa, Ala., the Gorgas School of Sanitation for the purpose of training country health workers, sanitary engineers and public health nurses, especially educated to deal with the problems peculiar to the Southern states.

An endowment of six and one-half million dollars will be required to enable the institute to carry on the work according to the plans which have been formed.

The Republic of Panama has demonstrated its sympathetic and practical interest in this enterprise with splendid liberality. The physicians of our country, and especially the members of the American Medical Association, surely will not disregard the memory of a former President, and will seize the opportunity to make in this respect a contribution of which they will be proud.

The campaign for funds is to be international. A large response is expected from North, Central and South America, since the nations of these countries have been the chief beneficiaries of the labors of General Gorgas. It is fitting that his coworkers of the American medical profession should be requested to respond generously to this appeal. It is hoped that every member of the American Medical Association will make as liberal a subscription as possible. Any sum will be gratefully received. Checks should be drawn to the order of the "Gorgas Fund" and should be mailed to the American Medical Association, 535 North Dearborn Street, Chicago.

AS OTHERS SEE US

(*Editorials from the Lay Press*)

NOT PART OF GOD'S PLAN

A minister of ripe experience spoke at the funeral of an old friend in Kansas City not long ago. The friend was a useful and honored citizen who had died in his prime. Referring to this premature death the minister said, in effect:

"We try to say such a death is for the best. But we know it is not for the best that such a man should die before his natural time. We might reasonably have expected him to live fifteen or twenty years longer, in useful service to the community and in delightful intercourse with his family and friends. His death is a reflection on our civilization. It shows how little headway we have made in the task the Creator assigned us to subdue the earth. It is the duty of society to get such command of Nature that there shall be no premature deaths."

Was not the minister right? How often have we all listened to a funeral discourse in which the speaker labored to comfort the mourners by assuring them that the death of a person not yet old was the will of God and part of the divine plan? Yet have we not felt in our hearts that we knew better?

We do know better unless we assume that whatever is is right; that evil is what God wills. If that is true, why do we seek to overcome evil? Why do medical men labor with devotion to cure disease? Why did investigators expose themselves to death from yellow fever in Cuba in order to discover the carrier of the germ? If premature death is for the best, then all our ideals are topsy-turvy.

We may be sure that the divine plan recognizes evil as evil, to be overcome and done away with. Before the discovery of the anti-toxin treatment, multitudes of children died every year from diphtheria. It was not the will of God that those children should perish. It was His will that they live. It was not the will of God that the millions of young men who died in the war should come to an untimely end, although it was His will that they follow the dictates of duty even to death. It was His will that the peace of justice should prevail.

In the present imperfect scheme of things, in

the present partial development of human knowledge and character, a death before normal old age may be the part of duty; may be inevitable. But there is nothing to be gained in refusing to face the fact that it is a heart-breaking evil.—*Kansas City Star.*

OPERATIONS

Physicians have a just grievance against many writers of news. If they do not keep up a constant fire of energetic protest the items in the obituary column are pretty sure to read "Died after an operation," if not "—died from an operation." Of course it would be just as logical to say "—died after a course of calomel," as a good many people were wont to do before operations came into fashion, or —"died from a course of blood-letting," as it is quite possible a number actually did do. But the news writers are backed by a certain public prejudice, however unjustifiable it may be, for people have in many cases not sufficiently accustomed themselves to the surgical treatment of disease and are apt to think of an operation as something which kills when it fails to cure. Perhaps the time will come, and before long too, when the news writers will be faithfully reflecting public opinion when they write"—died in spite of an operation."—*Superior Telegram.*

"FAIR PLAY TO THE PUBLIC"

An editorial in a recent issue of the New York *Evening World* commented on an investigation that had been made in New York to attempt to test the quality of "chiropractic" knowledge. Normal individuals went to certain chiropractors, gave fake symptoms, and the chiropractors "discovered" subluxations whose presence defied the roentgen ray. The *Evening World* very properly pointed out that, possibly, if normal individuals went to reputable medical practitioners and reported fake symptoms, physicians themselves might "fall down" on both diagnosis and treatment. As a result of this comment, the *Evening World* received a number of letters of approbation from the chiropractors, in one of which the writer commended what he termed the paper's "policy of fair play to the chiropractors." The *Evening World* came back with an editorial whose title we reproduce in the caption. This editorial contains so much sound sense that we make no apology for reprinting it practically in full:

The *Evening World* is vastly more interested in a policy of fair play to the public.

Fair play to the public would, we believe, eliminate 90 per cent or more of the present practitioners of chiropractic.

Fair play to the public would require adequate education of chiropractors—for example, a regular medical course plus the specialized postgraduate work expected of a specialist in other fields of medicine.

In such a course many would-be chiropractors would come to the conclusion that manipulation of vertebrae is not a cure-all, whatever its possibilities.

Fair play to the public demands that chiropractic processes should be used only by men who know thoroughly what they are doing and why. Both common sense and science deny that all ills are traceable to the spine.

Fair play to the public demands a strict curb on a great mass of quackery masquerading under the name of chiropractic. Fair play to the public would send a substantial percentage of chiropractors either to school or to jail.

Adequate education might develop some competent healers of a limited group of diseases from the crowd of incompetent meddlers. But, given education, it is probable most of them would cease to be chiropractors.

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EXANTHEM SUBITUM.

BY J. GURNEY TAYLOR.

MILWAUKEE.

In the past few years we have met constantly with an unclassified form of febrile exanthem in children, which we have never clearly classified. No description of it has been contained in any text-books, until Veeder and Hempelmann presented their communications to the American Pediatric Society on June 3, 1921. At this time

they clearly defined the characteristics of the disease as one of short duration (2 to 4 days), high temperature, anorexia, irritability, with temperature persistent over 3 or 4 days, without any other characteristic findings. On the 4th day the temperature drops and the eruption appears.

So far I have observed 11 cases of this condition and in my series they have ranged from 3 months to 7 years: 3 months 2, 8 months 1, 10 months 2, 13 months 1, 14 months 1, 2 years 2, 4 years 1, 7 years 1.

As there has been little difference in the character of these cases, I am presenting the history in one case, which is typical of the condition.

Veeder has given the age of greatest frequency as from 6 to 18 months.

There are a few physical signs: no adenopathy, some hyperaemia of tonsils and pharynx, ears negative, no findings in chest or abdomen, or nervous symptoms. Urine findings have been negative. In most of the cases I have found considerable injection of fauces.

Eruption develops on fall of temperature—measley in type—maculo-papular—light red—fades upon pressure—duration 12 to 14 hours. Location on trunk mostly, face, ears, limbs less frequently—no desquamation observed.

Blood: Veeder stressed the point in regard to leukopenia, which was found present in the majority of his cases. Also in regard to the fact that in his series of cases there was a relative lymphocytosis present. In the cases I have examined there has been constantly a leukopenia with a high lymphocyte count.

Diagnosis: A differential diagnosis from the other febrile exanthems—four to be considered:

1. Measles with catarrhal symptoms, Kopliks, character of eruption.

2. Scarlet fever with angina, the onset and course of fever, the character of the eruption (punctate), desquamation.

3. German measles, early rash, post. cervical adenopathy, moderate temperature, rash appearing at height of temperature.

4. Drug rashes.

It is of interest that Zahorsky in 1910 and 1913 in Pediatrics 22:30, 1910, and Journal of the A. M. A. 61.1446, October 18, 1913, presented papers describing what he called "Roseola Infantilis" and "Roseola Infantum" which Veeder and Hempelmann considered as the same condition described as Exanthem Subitum.

*Cecille Des Marais, age three months, was admitted to the Hospital September 13, 1921, for feeding.

Physical examination entirely negative, except for a pustular eruption over chest, anteriorly and posteriorly.

Family History. Father living and well. Mother died four hours after birth of child—acute dilatation of the heart. Two brothers and three sisters living and well. Full term baby—breech delivery—weight 8 pounds, 13 ounces. On formula since birth.

Laboratory findings at the time of admission—W. B. C. 12,000; P. M. N. 38; L. Lymph 55; Trans. 4; Eosin 2; Baso 1.

On December 25 infant developed a fever of 100 degrees which rose to 102.6 degrees on the 26th with anorexia, vomiting. Examination was entirely negative except for uvula which was edematous and injected. Hyperaemia of the pharynx and tonsils. Chest was normal, ears appeared normal on the 28th, with a temperature of 101 degrees. Findings were the same except for a macular papular eruption, crescentic, covering entire trunk and extremities. Posterior cervical glands were palpable. No Koplik spots were present. Temperature on the evening of the same day was 99 degrees and reached normal on the 29th, after which there was no rise.

W. B. C. on the 29th was 8740; P. M. N. 43; L. Lymph 53; Trans. 3; Baso. 1.

On the afternoon of the 30th eruption had entirely disappeared, temperature was normal, and all findings negative. Dismissed from Hospital January 7, 1922, at which time all findings were negative.

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*Presented at Clinical Meeting, Milwaukee Academy Medicine.

METASTATIC SUPPURATIVE PERITONITIS: A CASE REPORT.*

BY R. L. McINTOSH, M. D.,

MADISON.

The grave prognosis of metastatic peritonitis of a suppurative type and the infrequency of occurrence of similar cases lead to the presentation of the following case report:

CASE—M. S., a male, white student of 19, unmarried admitted to the University Infirmary on the evening of January 11, 1922, complaining of severe pain in the left groin.

H. P. I.—The patient has suffered from sore throat and nasal cold for the past four weeks, but this morning felt very well. At two thirty this afternoon experienced a sudden severe pain in the left groin while exer-

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*From the Department of Clinical Medicine, University of Wisconsin.

eising. A tense tumor appeared in the left scrotum and groin, which was diagnosed a hernia by the attending physician. Attempts at replacement were futile; and rather than traumatize the tense contents of the hernial sac, instructions as to posture and local applications were given. On a later visit the physician effected a partial reduction; but the obvious prostration and toxic condition of the patient led to his admission to the hospital.

P. M. H., S. H. and F. H.—Irrelevant.

Physical examination on admission determines T. 105⁴, P. 148 and R. 36.

The patient, while well oriented, is very restless. Grimacing and tossing of the head are outstanding. Very apprehensive—air of dread.

In general the further examination is without significant findings except in the abdomen, where there is diffuse, unlocalized hyperaesthesia with but slight voluntary resistance. There is no definite point of tenderness nor involuntary resistance. The left scrotum is still swollen and very tender, and the hernial protrusion is irreducible on gentle taxis. W. B. C. 13,500.

1-12-22. Vomited once last evening at ten. At two this morning had a large loose bowel movement, and at five a liquid stool. However spent a fairly quiet night.

Vomited several times during the day and had frequent watery stools. Slept at intervals through the day and toward evening complained of pain in the back of neck. The temperature, which had fallen to 103 in the morning rose to 104⁴ by evening.

The abdominal and serotal pain became progressively less marked and the hernia grew smaller. Proctoclysis and hypodermoclysis have been contained at intervals through the day.

W. B. C. 27,600.

Differential—

Poly. 92.5.

Lymph. 5.5. Many immature cells unassigned.

L. Mono. 2.

1-13-22. The patient has become irrational after a very restless night. Emesis was more frequent through the day and general condition weaker. Temperature ranged from 101² to 105⁶.

W. B. C. 28,800.

Differential—

Poly. 77.5.

Lymph. 5.

L. Mono. 10. Again, immature cells found.

Trans. 7.5.

1-14-22. At four this morning, the patient lapsed into coma. The respirations became very shallow (50) and the pulse, thready. The temperature was 105⁴. Later in the day consciousness was regained; but at six o'clock coma was reestablished and the patient expired at 11:50.

The blood culture made 1/12/22 was reported to contain a streptococcus arranged in pairs and short chains. A partial postmortem (abdomen only) was permitted. The report of same by Dr. C. E. Zellmer is appended: The abdominal cavity is filled with a thin yellowish green purulent material. The peritoneum is lustreless and covered in many places, particularly in its pelvic distribution, with a fibrinous exudate. The omentum and intestinal coils are rendered adherent by this exudate. Injection of the parietal peritoneum is especially marked in the right iliac fossa. Hernial sac (left) is free.

Close inspection of the gastro-intestinal tract fails to reveal any areas of ulceration, gangrene or perforation.

The liver and spleen are passively congested; but no other pathology is determined in them.

The kidneys show no gross pathology. Bacteriologic examination of the pus from the peritoneal cavity revealed the same type of streptococcus, culturally and morphologically, as had been isolated from the blood.

A diagnosis of pneumococcus (or streptococcus) peritonitis was made on admission; and operative intervention was delayed on account of the condition of the patient and the futility of such a procedure in the early diffuse stage. The clinical picture tallied most accurately with that outlined by Syms* for pneumococcus peritonitis. The sudden onset coupled with extreme toxemia and prostration in the absence of correspondingly grave abdominal signs was suggestive. The continued absence of localized tenderness, pain, and rigidity was ominous; but most important in deriving an absolute diagnosis was the diarrhoea in the presence of signs of peritoneal irritation.

Several other diagnoses suggested themselves for exclusion. Reduction of a hernia en bloc with subsequent gangrene and peritonitis was the first thought. Perforation of a viscus with peritonitis next engaged the attention. Mesenteric thrombosis must always be considered in abdominal cases with collapse. Obviously the clinical course and necropsy findings excluded these diagnoses and confirmed that of streptococcus peritonitis.

As has been suggested, pneumococcus (or streptococcus) peritonitis must invariably arise from a septicaemia with a remote focus of origin. In this sense the term metastatic suppurative peritonitis. would seem more acceptable than one which merely indicates the etiologic organism. The tonsils and naso-pharynx were the probable primary foci here. The localization of the inflammatory process to the peritoneum in this case was probably determined by the lowered resistance from the traumatic and circulatory influences of the hernia.

Early operation in metastatic suppurative peritonitis invariably results fatally. Hence the importance of an early differential diagnosis between

*Syms, Parker—Annals of Surg., vol. 67, 1918; pg. 263.

the usual peritonitis from extension or rupture in an affected abdominal viscus and the hematogenous type becomes apparent. Only after pocketing has occurred and the suppurative process thus become limited in the latter type is laparotomy indicated and attended with a measure of success.

Note—This case was seen in consultation by Drs. R. H. Jackson, Joseph S. Evans and Robert Van Valzah.

RECOVERY OF THE TYPHOID BACILLI WITH THE DUODENAL TUBE 32 YEARS FOLLOWING AN INFECTION WITH TYPHOID FEVER.

BY ADDISON M. DORR, M. D.,

CONSULTANT TO THE NATIONAL HOME D. V. S.,

GASTRO-ENTEROLOGICAL SERVICE.

Medical literature offers us a great deal on typhoid carriers. That some individuals, following a typhoid infection harbour the typhoid bacilli for years is nothing new or astonishing. But it is only of later years that the duodenal tube has given us the valuable information as to what a lodging place the gall-bladder and its accessory ducts have proven to be. However the interesting feature of this case lies not in the fact that the patient was proven to be a carrier, but the length of time that elapsed since her original typhoid infection and the recovery of the typhoid bacilli in the bile obtained by the duodenal tube. Thirty-two years after her infection we were able to grow an uncontaminated culture of typhoid bacilli.

This patient was referred to us by Dr. Louis M. Warfield for duodenal tubing and through his kindness we are able to give the case history, duodenal tubing technique and laboratory findings.

Family History. No history of typhoid in any other member of her family.

Past History. Woman, aged 70, a mother of ten living children, has always been a hard working housewife. She had *typhoid fever 32 years previously.* Appetite usually fair, bowels good, has never noticed if the movements are clay colored and has never been jaundiced to her knowledge. For years she has belched a great deal of gas, felt bloated and loggy following her meals. This indigestion, as she called it, was not always related to her meals and might come on at any time of the day. She has however no pain in relation to her meals. By bringing up the gas she would be somewhat relieved. At no time has she had any crampy pains in the abdomen.

Present Complaint. She came to us to be relieved of the "indigestion" and bloated feeling and that she might be able to add more foods to her already restricted diet. Of late she has limited herself to bread and butter, potatoes and tea. Even now these foods distress her. In other words she is suffering from a *qualitative food dyspepsia.* Such foods as cabbage, apples and heavy greasy foods are always followed by distress. There never has been any nausea, vomiting or any crampy pains such as to double her up. Nothing in the way of symtomatology that would indicate a gall-stone on the move.

Physical Examination. A slightly built woman, bright eyed, of good color. She does not look to be nearly 70 years of age. She is fairly well nourished and her general appearance is snappy. Head and chest negative. Examinations of the blood, urine and stool were also negative. Abdomen soft and not distended. There was some slight tenderness to deep palpation over the gall-bladder region and some tenseness to the upper right rectus. The sclera was slightly jaundiced but the skin showed no patchy brown pigmentations.

Fluroscopic and plates negative.

Duodenal Tubing. This was done according to the technique of Lyon and Smithies so well worked out in detail in the Annals of Medicine, Feb., 1921—July, 1920.

Three sterile test tubes of bile, which we thought came from the common duct, gall-bladder and liver respectively were obtained in as an aseptic a manner as we were able to and sent to the laboratory. Our choice of solutions injected into the duodenum was the magnesium sulphate. We have found it to be the easiest of preparation and of the same value as the other solutions suggested.

The laboratory reported the presence of typhoid bacilli, with no contamination in cultures made from the gall-bladder bile.

Following the tubing the patient reported that she felt less bloated, eructated less gas and that now she was eating certain foods she had not eaten in years, with a fair amount of comfort. Further tubings were recommended, twice weekly for a time and then later once every two weeks. We feel that in elderly people, with negative stone history and negative X-ray, the tubings give some relief. Particularly do we recommend such a procedure if the patient is a poor surgical risk.

POSTOPERATIVE MASSIVE COLLAPSE OF THE LUNG.

Herman Elwyn and Joseph Girsdansky, New York (*Journal A. M. A.*, Aug. 26, 1922), report a case of massive collapse of the right lung following a stab wound in the abdomen. What part the wound itself and what part the anesthesia played in the production of the collapse cannot be determined. The authors hint that probably many cases of postoperative pneumonia will prove to be massive collapse of the lung.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

WHY DIPHTHERIA KILLS.

BY ROBERT OLESON,
SURGEON, UNITED STATES PUBLIC HEALTH SERVICE,
GRAND FORKS, NORTH DAKOTA.

The desirability of investigating deaths from diphtheria with a view to fixing the responsibility for such premature demises and thereby preventing repetitions of these unfortunate occurrences has been indicated in a previous article published in the WISCONSIN MEDICAL JOURNAL. In this article an outline to be used by deputies of the State Board of Health in securing certain important data was presented. The principal public health aspects of the matter were included. In accordance with the plan outlined investigations of diphtheria deaths which occurred outside of the City of Milwaukee were begun immediately. The data collected during the course of these investigations are now available for study. The form used is reproduced herewith.

FORM 1.

Number . . . . . .

INVESTIGATION OF DEATH FROM DIPHTHERIA.

1.

Name of Deceased . . . . . .
Age . . . . . Sex . . . . . .
Date of Death . . . . . Cause of Death . . . . . .
County . . . . . .
Place . . . . . Street Number . . . . . .
Attending Physician . . . . . .
Residence . . . . . .

2.

A. Case Report, when . . . . . .
by whom . . . . . how promptly . . . . . .
B. How Long Physician was in Attendance . . . . . .
C. Cultures, when taken from patient . . . . . .
From members of family . . . . . .
D. Antitoxin, ... kind . . . . . .
Number of doses . . . . . Size of each . . . . . .
When given . . . . . .
E. General Treatment and Nursing . . . . . .
F. Disinfection . . . . . .
Kind . . . . . Efficiency . . . . . .
G. Quarantine . . . . . .
Length and Efficiency . . . . . .

3.

CONCLUSIONS:

a. Source of Infection . . . . . .
b. Responsibility for Death . . . . . .
c. Spread of Infection to Others . . . . . .

4.

ACTION TAKEN:

a. Explanation, Reprimand or Prosecution of—
Attending Physician . . . . . .
Health Officer . . . . . .
Nurse . . . . . Head of Family . . . . . .
Other Persons . . . . . .
b. PUBLICITY THROUGH:
Press notices, public addresses, placards, literature, etc.
Meetings with clubs, societies, officials, etc.

5.

Recommendations for Further Action . . . . . .
Remarks . . . . . .

In order that a better appreciation of the situation may be obtained it is advantageous to review briefly conditions as they pertain to diphtheria prevalence in Wisconsin.

TABLE 1.

NUMBER OF REPORTED CASES AND DEATHS FROM DIPHTHERIA IN WISCONSIN WITH ANNUAL DEATH RATES PER 100,000 POPULATION IN WISCONSIN AND UNITED REGISTRATION AREA FROM THE YEAR 1912 TO 1921.

Years	Reported Cases in Wisconsin	Case Rates Per 100,000 Population	Reported Deaths in Wisconsin	Death Rates Per 100,000 Population Wisconsin	Death Rates Per 100,000 Population Registration Area
1912	1913	80.0	279	11.7	18.2
1913	2283	94.5	293	12.2	18.8
1914	2767	113.0	328	13.5	17.9
1915	1704	68.8	204	8.4	15.7
1916	1981	79.0	221	8.9	14.5
1917	2520	99.3	347	13.9	16.5
1918	1774	69.0	271	10.7	13.8
1919	2184	84.0	293	11.5	....
1920	3485	133.0	365	13.9	....
1921	5175	194.0	385	14.5	....

In Table 1, the death and case rates per 100,000 population during the past ten years are given. It will be noted that the 1921 death and case rates were the highest recorded during a ten-year period. Consequently it may be assumed that the efforts of the State Board of Health to reduce the diphtheria death rate through prompt investiga-

tion of the deaths has been to a large extent unsuccessful. It is also probable that diphtheria actually prevailed to a greater extent during 1921 than during previous years.

The ages and sexes of 182 persons, who succumbed to diphtheria, are shown in Table No. 2.

TABLE 2.

Ages and Sexes of 182 Cases of Diphtheria Which Resulted Fatally in Wisconsin, With Totals in Each Age Group and Percentages.

	Males	Females	Totals	Percentages of Whole Number
Under 1 year	5	1	6	3.3
Under 5 years	20	24	44	24.2
5-9 years	40	29	69	37.8
10-14 years	21	16	37	20.3
15-19 years	6	5	11	6.3
20-24 years	..	3	3	1.6
25-29 years	2	2	4	2.2
Over 40 years	3	5	8	4.3
Total	97	85	182	

It will be noted that there were twelve more deaths among males than females. It is of particular interest to note that 6 deaths occurred in children under one year of age; 27.5 per cent, or more than one-quarter of all the deaths investigated in this series, occurred in children under 5 years of age, while 65.3 per cent of the entire number occurred in children under 9 years of age. While diphtheria is usually regarded as a disease of childhood, nevertheless 8.1 per cent of the fatalities occurred in persons over 20 years of age. From these figures it may be concluded that diphtheria attacks those of mature years as well as the very young with fatal results.

The length of time that physicians were in attendance upon cases in which death was the outcome was obtained from the certificates submitted by the attending physicians and is displayed in Table 3.

TABLE 3.

Number of Days Physicians Were in Attendance Upon 177 Cases of Diphtheria Resulting Fatally in Wisconsin, With Percentages of Each Group.

Number of Days	Number of Cases	Percentages
Less than 1 day	10	5.8
2 days	28	15.6
3 days	43	24.2
4 days	15	8.5
5 days	15	8.5
6 days	13	7.5
7 days	18	10.2
8 to 14 days	25	14.1
14 to 21 days	4	2.3
Over 21 days	6	3.3
Total	177	

Therefore, these figures may be regarded as accurate. Of 177 fatal cases in which this information was obtained physicians were in attendance for 3 days or less in 35.6 per cent of the total number. The length of medical attendance was 4 days and over in 64.4 per cent of the total number of fatal cases, while for 7 or more days of attendance it was 29.9 per cent. It appears, therefore, that deaths ensued in a considerable number of instances despite treatment and despite the fact that there was ample time in which appropriate treatment could be administered.

With regard to the taking of nose and throat cultures the greatest possible laxity was discovered.

TABLE 4.

Number of Cultures Taken From 183 Cases of Diphtheria Which Resulted Fatally in Wisconsin. Also Cultures Taken in Families in Which Fatal Cases Occurred.

Cultures from patients	85	46.5%
No cultures from patients	98	53.5%
Cultures from members of family	102	56.0%
No cultures from members of family	81	44.0%

As shown in Table 4, cultures were taken from 85 or 46.5 per cent of 183 fatal cases in which it was possible to obtain the information, while in the remainder the diagnosis was based upon clinical findings only. When it is learned that no cultures were taken in 81 or 44 per cent of the families in which fatalities occurred, it is not to be wondered at that the disease was widespread.

TABLE 5.

Number of Doses of Antitoxin Administered in 146 Cases of Diphtheria Resulting Fatally in Wisconsin, With Percentages of Each Number.

Number of Doses	Number of Persons	Percentages
1	52	35.6
2	60	41.0
3	20	13.7
4	7	4.8
5	4	2.8

6	2	1.4
8	1	.7
Total	146	

In Table 5 are shown the numbers of doses of antitoxin administered in 146 cases of diphtheria that resulted fatally. It will be noted that only one or two doses were administered in 76.6 per cent of the entire number of cases. Of course, if these had been single massive doses of antitoxin no criticism could be offered. However, it is known that practically all of the doses were relatively small, indicating lack of appreciation of the value of large and repeated doses of the medication.

The statements just made with regard to the size of the antitoxin dosage are further borne out by a consideration of the information imparted.

TABLE 6.

Units of Antitoxin Administered in 125 Cases of Diphtheria Resulting Fatally in Wisconsin, With Percentages of Units Given in Certain Quantities.

Total Units Given	Number of Cases	Subtotals	Percentages of Entire Number
500	1		
1,000	2		
3,000	1		
5,000	12	16	12.8
7,400	2		
10,000	32	50	40.0
12,000	1		
13,000	2		
15,000	10	63	50.0
17,000	1		
18,000	1		
19,000	1		
20,000	13	79	63.0
22,000	2		
24,000	1		
25,000	6	88	71.0
30,000	15	103	82.5
31,000	1		
35,000	5	109	87.3
40,000	3	112	90.0
45,000	3	115	92.0
50,000	4	119	95.0
60,000	2	121	97.0
72,000	1		
80,000	2	124	99.0
110,000	1	125	100.0
Total	125		

It will be noted that the dosage was 15,000 units or less in 63 or 50.5 per cent of 125 cases in which it was possible to obtain accurate information. In 82.5 per cent of the entire number the total dosage was 30,000 units or less. Considering the readiness with which antitoxin can ordinarily be obtained and the ease with which it is administered, the antitoxin dosages revealed in this table may be regarded as wholly inadequate. While antitoxin to the amount of 100,000 units is frequently administered in hospital and many private practices, it should be observed that an amount exceeding this dosage was administered in only one case in the entire series.

TABLE 7.

Responsibility for 178 Deaths From Diphtheria in Wisconsin, as Fixed by Deputy State Health Officers Who Made the Investigations.

Causes of Diphtheria Deaths	Number	Percentages
Failure of parents or guardians to summon medical aid until disease had made such headway that treatment was of no avail	112	63.0
Diagnosed as some other condition	9	5.5
Delayed or late diagnosis	7	3.9
Failure to make diagnosis	7	3.9
Physician incompetent	2	1.1
Physician too busy to give necessary treatment	3	1.6
Insufficient antitoxin administered	22	12.3
Antitoxin administered too late	6	3.3
No antitoxin administered	2	1.1
Patient resumed upright position too soon	3	1.6
False sense of security through negative laboratory report	2	1.1
Parents refused to permit administration	2	1.1
Abscess burst and strangled patient	1	.5
Total	178	

In presenting Table 7, in which an attempt is made to fix the responsibility for the deaths of the patients, it should be emphasized that the investigations were made by seven men connected with the Wisconsin State Board of Health, all of whom are physicians familiar with the manifestations of the disease and the approved methods of treatment. In most instances their estimates were conservative, tending to be as fair as possible because of the obvious importance of their deductions. At the same time due allowance should be made for the tempering of individual opin-

ions, which despite careful preliminary instruction, must necessarily be widely divergent.

The most striking information presented in Table 7 is that the parents, guardians or friends of 112, or 63 per cent of 178 patients who died of diphtheria were primarily responsible for the fatal outcomes through failure to summon medical assistance sufficiently early. In the majority of the remaining cases the attending physicians were judged to be, in some way, contributory to the fatal outcomes through various enumerated causes. The lessons pointed out in this table are very plain and should be studied in detail by all physicians who are interested in removing the stigma of inefficiency from the profession. Considering that comparatively ready and reliable means of diagnosis are available and that an efficient means of treatment is at hand, this large number of diphtheria deaths must be regarded with grave apprehension.

DISCUSSION.

Inasmuch as many of the data obtained during the course of the investigation are the result of observation and opinion rather than of accurate scientific measurements, the deductions must of necessity be approximate only. However, it is believed that they are sufficiently accurate to warrant certain general conclusions regarding the reasons for the prevalence of diphtheria and the means of preventing fatalities.

The comparative readiness with which laboratory diagnosis in diphtheria can be obtained, the availability of antitoxin and the relative ease of its administration should have caused a steady reduction in diphtheria prevalence and mortality in Wisconsin during the past ten years. Reference to Table 1, however, shows that this desirable result has not been attained. From the information obtained during the course of the present investigation it appears that both parents and physicians are largely responsible for diphtheria fatalities. The remedies may be considered from a three-fold viewpoint:

1. Parents especially and the people generally must be educated to the necessity for summoning medical aid early when there is an indication of the least deviation from the normal in a member of the family. Young children are in special need of expert observation and treatment by reason of their inability to make known their ailments.

2. Physicians, upon being summoned to attend a patient who is apparently only slightly ill, should not be content with a superficial and hurried examination but should eternally keep in mind the possibility of an infection which may progressively become more serious. Early culturing of noses and throats upon the slightest suspicion of diphtheritic infection should be a cardinal rule with physicians. In case of doubt, antitoxin should be used even when a negative laboratory diagnosis has been obtained. Moreover, the administration of antitoxin should not be delayed until a laboratory report is received.

Paramount in the treatment of diphtheritic infection is the early administration of large quantities of antitoxin either in a single massive dose or in repeated smaller doses. To procrastinate in the use of antitoxin when diphtheria is present or suspected is to invite inevitable disaster.

3. It is not readily conceivable that sufficient progress will be made either in educating the people in summoning early medical assistance or in stimulating physicians to a better handling of suspected or actual cases of diphtheria. Therefore, it becomes necessary to resort to another means of combating this scourge. In immunization by toxin-antitoxin a valuable prophylactic measure becomes available. In view of the difficulties attending the reduction in diphtheria prevalence through the methods already outlined, it would seem desirable and necessary to immunize as many children as possible. While the possibilities of antitoxin treatment of diphtheria have by no means been exhausted, the worth of toxin-antitoxin prophylaxis has barely been realized. Therefore, it would appear justifiable and expedient to devote a large share of attention to prophylaxis, while at the same time the efforts to provide for early diagnosis, prompt and effective treatment of diphtheria should continue unabated.

PUBLIC HEALTH NEWS ITEMS.

Miss Horace Juerns, Social Service Worker, Milwaukee Health Department, has resigned to become a deputy sheriff in Milwaukee County.

Miss Mary McCarville, School Nurse at Oshkosh, has resigned her position in that city and will take up similar work with the Health Department in Madison.

The sixth biennial conference of health officers in the state of Wisconsin was held in Madison, August 14 to 19, in conjunction with the annual meeting of the state public health nurses. An excellent program was arranged.

The program for the last three days was arranged particularly for the nurses.

Because of the very hot weather many of the meetings were held in the pavilion in Monona Park.

Mr. Sieker, Health Officer of Shorewood, a suburb of Milwaukee, read an interesting paper

during the health conference in Madison. Mr. Sieker pointed out the necessity of placarding upon suspicion, and of isolation of all school children obviously ill until a diagnosis is made. It was pointed out that as a practical way of controlling communicable diseases among school children, it has worked in Shorewood.

Dr. H. G. Irvine, professor of Dermatology at the University of Minnesota, and director of the Venereal Disease Department for the State Board of Health, addressed the conference of State Health Officers, recently held in Madison, on the campaign against Venereal disease conducted in Minnesota.

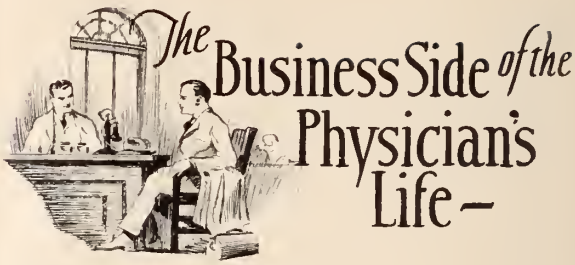
Speakers from outside of the state on the program of the Conference of health officers and public health nurses were: Dr. Naboth Pearce, Professor of Pedicure, University of Minnesota; Dr. Edgar J. Huenekens, Professor of Pedicure, University of Minnesota; Dr. Ethel M. Walters, Children's Bureau, Washington, D. C.

Polluted water cannot be used by creameries or places manufacturing milk products. Such places must either drill a new well or obtain water from some other source.

In the case of injuries from the bite of a vicious dog, the owner is personally responsible, and can be held for damages. Any vicious dog can be killed by any person without incurring liability.

The Child Welfare Special, motorized child health car, began a tour of Portage county Aug. 21 upon the following schedule: Kellner, Aug. 21; Junction City, Aug. 22-23; Plover, Aug. 24; Almond, Aug. 25-28; Amherst, Aug. 29-30; Rosholt, Aug. 31, Sept. 1.

New public health nurse appointments were announced as follows: Miss Sue Norman, city nurse, Wankesha; Miss Cecilia Geisling, Washington county; Miss Gladys Huggett, Portage county. Resignations were filed as follows: Miss Laura Chase, school nurse, Viroqua; Miss Sarah Hart, Red Cross nurse, St. Croix county; Miss Augusta Gehrs, Washington county.



Wisconsin Medical Journal.
Milwaukee, Wis.
To the Editor:—

I sometimes wonder if business men in general really understand us men who take up the professions. I have been following the series of articles that the Journal has been running on the business side of the life of the physician written from the several viewpoints of business men. It is a subject that interests be intensely. I don't believe I'm giving any less attention to the professional aspects of my practice because I am also, out of consideration to my family, carefully watching the business side of my profession. I think this series of articles is illuminating and helpful, particularly as we need an outside viewpoint that isn't so close to our own problems.

Nevertheless, as I say, I do not believe that most business men understand us very well. I'm afraid that they entertain a somewhat disdainful opinion of our abilities outside of our immediate profession.

Certain it is that every time a "get rich quick" proposition is analyzed, physicians are mentioned well to the top on the list of victims. Not long ago, in one issue, the Saturday Evening Post had two articles on shady finance, and both articles catalogned the physician as among the prize dupes.

Now of course, the fact is that no man—at least the average man—can be expert in more than one field. I don't believe the average first class banker would also be a first class physician. He'd either be a poor banker or a poor physician. The manufacturer who laughs at our simple minded business ways would probaby be an awful dub at surgery.

Our courses through life are diametrically opposed. The business man has to learn the game of business right down to its minutest detail or go under. He has to learn how to cut corners, keep expenses down, production up and all that sort of thing or competition grinds him under. Our

whole professional thought is centered on saving human life or curing human ailments—quite a different thing.

Then there are other considerations that enter into our case. We spend years in preparatory study, more years in medical college and perhaps finish off with a year or sometimes more in a hospital internship, before we start out on the practice of our profession.

All of this for what? For a profession that is going to make us rich? Scarcely!

There is a popular superstition that all doctors make money—a lot of it. That's probably one reason why people take so long about paying the doctor his money. They think he doesn't need it. They see him living in a nice comfortable home, maintaining a well equipped office, and driving around town in his own car, which is anything from a Ford up, and they reach the conclusion that the practice of medicine is highly remunerative. They never stop to think that these external evidences are his "overhead," that he has to put on a good "front" because people won't trust a doctor who is down at the heels, and operates a car because without it he can't get around fast enough.

And what are the facts? Simply this, that the profession of medicine is a poor road to riches. Some achieve riches along this road, but, mainly, few of us do.

I sometimes think that the real reason that physicians are so prone to take the long speculative chance is because their need for money is so great. I do not believe that the average *net income* of the physician is great, and if he is tempted to put his small surplus into a "flyer" on the off chance that it may be the long dreamed of golden harvest, its probably no wonder.

That's the apology for our unbusinesslike ways. Now for the remedy as I see it.

The ability to save money has no relation to the ability to earn money! Think that over a bit, then think over some of the men you know in humbler walks in life who have accumulated competences. I know an old laborer who educated a family of five, in addition to raising them, bought his own home, and put a little money away, on a wage of a dollar and a half a day. This was in the low wage era before the war.

I think we should all of us analyze our situations frankly and face facts. Most of us are not going to earn fortunes in the practice of medicine. Fortunes are rarely built from individual effort. It is the combined efforts of many workers going into one pocket that builds big fortunes. Nothing like that is going to happen to us. If we are going to build up enough of a balance to live on, its going to be done on the "many a mickle making a muckle" plan. We've got to follow much the same plan my laborer friend followed, but simply on a different scale.

I've got to thank a business man acquaintance for getting me started on the right track. I think most of us medical men do not talk to business men as much as we should. We're too clanny. We'd rather spend our off hours with other physicians, talking shop. If we'd get out and rub elbows with business men, big business men if we know any, little ones if that's all that are available, we'd learn a lot that would be good for us. We'd learn more about business, which, it seems to be freely agreed, we need to do.

Up to the time that I was forty, I had saved nothing. I kept a pretty substantial cash balance in the bank for what I called a rainy day, but that was all.

I had by that time built up my practice to the point where it was earning me a very good income as physician's incomes go. My family isn't large, our tastes are not particularly extravagant, yet our money went somewhere, I don't know where. One day I confided to this business man acquaintance that, other than my bank balance, I hadn't a cent to my name. I think it was a good deal of a shock to him. Like everyone else, he thought "the doctor had lots of money."

He asked me why I didn't invest the money I had in my bank balance in something that would give me an interest return. I told him that was my rainy day fund. That made him smile. "It won't be any less of a rainy day fund," he said, "if invested, than it is lying idle in the bank. You can always borrow on good securities, you know. That's what banks are for."

After thinking that over a little, I got him to help me select some good securities and I put the entire bank balance into bonds. I've been doing that ever since, as fast as I've had a little surplus, and I've gotten together a fairly respectable little bunch of securities, and begin to see where someday I can be independent of my practice.

After all, isn't that the answer? I don't know

that it is especially necessary that we physicians should pretend or attempt to be business men. We need to learn the value of a decent amount of thrift, of the folly of taking wild shots at the target of chance, and of the wisdom of steady and systematic saving and investing. Then steer a steady course and be satisfied with slow accumulations. If we do that, I'll venture to say that we'll probably wind up about as well off as the average so-called business man.

OPTIMAL FOOD MIXTURES FOR DIABETIC PATIENTS.

An attempt is made by Russell M. Wilder (*Journal A. M. A.*, June 17, 1922), to analyze certain principles underlying the dietotherapy of diabetes and a method is proposed for calculating diets which will embody these principles. Such diets should, it is believed, satisfy four requirements: 1. The diets should lower the metabolic rate of the patient 15 or 20 per cent below that of an individual of like surface area, age and sex on an unrestricted diet. Under favorable circumstances, this can be accomplished by making the food calories equal to the basal calorie requirement of a fully nourished normal person of the same height, weight, age and sex as the patient, and adding an allowance of 20 or 30 per cent for work if a sedentary occupation is permitted; an extra allowance is not made for the specific dynamic action of food or for movements in bed. This procedure is called low-maintenance in contradistinction to more rigid dietary restriction termed undernutrition. The advantage of a low-maintenance diet is that enough calories are provided to satisfy the energy requirements of the patient at his reduced metabolic level, thus avoiding continuous wastage of body tissue. It is more satisfactory to base calculation of the basal calory requirements on the four factors of age, sex, height and weight according to Du Bois' standards for surface, rather than on weight alone, as is the general custom. The calculation is simplified by a nomographic chart published by Boothby and Sandiford. 2. The protein quota of satisfactory diets should be restricted to the minimal value consistent with the maintenance of nitrogen equilibrium. This requirement is usually met by two-thirds gram for each kilogram of the patient's body weight. 3. In order to reduce as far as possible the sugar strain on the weakened sugar burning mechanism, the carbohydrate quota of the diet should be restricted to a minimum consistent with safety from acidosis. 4. A safe ratio must be maintained between the molecules of ketogenic material and molecules of glucose contained in the food mixture. With low protein diets, such as those proposed, providing calories equal to low-maintenance requirement of the patient, the ketogenic ratio which just fails to cause a clinically significant accumulation of acetone bodies, the so-called threshold ratio, is 2: 1. This implies that the oxidation of two molecules of acetoacetic acid is accomplished in the presence of one molecule of glucose. The ketogenic ratio of the food mixture should avoid this 2: 1 ratio by a reasonable margin of safety.

A DISEASE CLINICALLY RESEMBLING EPIDEMIC DYSENTERY.

In an epidemic of acute dysentery occurring in a rural community, there were forty-six cases of a severe type with fever, mucoid and bloody stools, tenesmus and pain. There were 120 cases of a milder type. There were no deaths, few complications and no sequelae. There is no evidence that the water supply was implicated in the spread of the disease. The presence of an unusual number of flies throughout the summer is assumed by L. E. Youmans and John B. Youmans, Mukwonago, Wis. (*Journal A. M. A.*, June 10, 1922), to have a bearing on the spread of the infection. It is probable that flies and contact with patients having the disease and with convalescent or well carriers were the principal means of spreading the infection. The extreme heat and dryness probably played a part in the incidence of the disease, and favored the spread of the infection. Sudden, severe changes in the temperature, which occurred twice during the epidemic, seemed to have some influence on the development of new cases. The disease is separated from the group of "infections diarrheas" by its severity. It resembles most true epidemic dysentery due to *B. dysenteriae*, especially in the wide range of age incidence. It lacked, however, the duration and the mortality. In the vast majority of cases it was limited to three or four days. There were no deaths. Examination of satisfactory specimens of stools in four cases failed to yield *B. dysenteriae*, allied groups, or any other organisms which were considered to be an etiologic agent.

STUDIES ON THE THERAPEUTIC EFFECT OF BACILLUS ACIDOPHILUS MILK AND LACTOSE.

Relief from chronic constipation and diarrhea has been secured by Nicholas Kopeloff and Clarence O. Cheney, New York (Aug. 19, 1922), by the ingestion of *B. acidophilus* milk and lactose in mentally normal and psychotic subjects. This corroborates the work of Rettger and Cheplin. Five psychotic patients receiving such treatment showed no improvement in their mental conditions during the period of treatment; in two others, improvement was slight, but was not more than might have been expected without treatment with *B. acidophilus* milk, each of these patients having recovered previously from similar attacks without this treatment. The intestinal flora becomes changed on treatment with *B. acidophilus* whole milk and lactose, but the relative percentage of gram-positive rods rarely exceeds 70. Incubating *B. acidophilus* whole milk at room temperature is satisfactory for three or four days, after which the number of viable organisms decrease rather rapidly, and the acidity increases to the point of unpalatability.

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SOCIETY PROCEEDINGS

ASHLAND-BAYFIELD-IRON COUNTY

The Ashland-Bayfield-Iron County Medical Society met at the Elks' Club for its mid-summer meeting.

The program was a symposium on tuberculosis, Dr. Dearholt making the principal address.

The following subjects were discussed:

The throat as an avenue of entrance of infection, by Dr. Shaw.

Bone Tuberculosis, by Dr. Dodd.

Genito-Urinary Tuberculosis, by Dr. Smiles.

Home Treatment, by Dr. Dorpat.

Method of obtaining admission of patients to Sanatoria, by Dr. Dell Andrus.

General review of program, Dr. Hosmer.

FOND DU LAC COUNTY

The annual picnic of the Fond du Lac County Medical Society was held Wednesday, August 2, at Green Lake.

A fried chicken "feed" and a boatride were paramount features for the picnickers. The spread was served at Blackbird Island.

GREEN COUNTY MEDICAL

A meeting of the Green County Medical Association was held at Decatur Dam, near Brodhead, August 29. A picnic dinner was served.

MANITOWOC-SHEBOYGAN-CALUMET COUNTY

Forty-four physicians and nine nurses attended the tri-county clinic held at Manitowoc, August 11, taking part in the work of the clinic and the banquet which followed. There were forty-four physicians of Manitowoc, Sheboygan and Calumet counties and nine nurses from the hospitals, and the clinic was a most successful one.

It was the second of a series of three clinics arranged for physicians of the three counties, the first having been held at Elkhart and the final will be at Sheboygan next month. The clinics afford opportunity for study and acquaintance among physicians.

NORTH WISCONSIN MEDICAL

The North Wisconsin Medical Society, comprising the counties of Barron, Polk and Burnett, met August 1, and completed one of the most successful medical conventions in the history of the organization. The society assembled at Hayward where a clinic was conducted and where a number of prominent physicians gave new ideas on Medical science and research. Doctors J. H. Schultz and G. H. Morrisey of St. Paul addressed the society. About twenty physicians and surgeons were present.

WALWORTH COUNTY

The August meeting of the Walworth County Medical Society was held in the Y. M. C. A. building at Lake Geneva, August 18. Dinner was served and Dr. William Peterson of Chicago talked on the subject of "Protein Therapy."

WALWORTH-KENOSHA-RACINE COUNTY

Seventy-five members of the Walworth, Kenosha and Racine County Societies met at the Racine Country Club August 9. Dinner was served at one o'clock, after which the following program was given:

"Radium as an adjunct to surgery, with special reference to its indications in gynecologic lesions." Dr. J. P. McMahon, Milwaukee.

"Radium as an adjunct to surgery in the treatment of lesions of the buccal cavity." Dr. G. V. I. Brown, Milwaukee.

"Radium as an adjunct to surgery in the treatment of lesions of the genitourinary system." Dr. W. K. Gray, Milwaukee.

"Radium in dermatology." Dr. H. R. Foerster, Milwaukee.

WAUKESHA COUNTY MEDICAL

Through the courtesy of the University of Wisconsin Extension Department, the Waukesha County Medical Society was able to offer the members of the 1st Councillors Society an extraordinary program. On Friday, August 25, the second movie lecture of the course on Obstetrics was given at the Strand Theater, Oconomowoc, at 3:30 P. M., and all of the members of the four counties were guests of the Waukesha County doctors for the meeting and also to a banquet held following the lecture. An added attraction was a post prandial talk by Dr. Jos. B. DeLee, Lying-In Hospital, Chicago.

WOOD COUNTY

A regular meeting of the Wood County Medical Society was held at the Marshfield Clinic, July 28.

ASSOCIATION NEWS

Synopsis of the program of the annual assembly of the Tri-State District Medical Association to be held at Peoria, Illinois, October 30, 31, November 1 and 2. (Territory includes Iowa, Illinois, Wisconsin and districts of surrounding states.)

FIRST DAY.

Monday, October 30, 1922.

7 A. M.

1. Diagnostic Clinic (Surgical). Dr. William Seaman Bainbridge, New York, N. Y.
2. Diagnostic Clinic (Medical). Dr. Charles F. Hoover, Cleveland, Ohio.

3. Diagnostic Clinic (Surgical). Dr. Emmett Rixford, San Francisco, Calif.

INTERMISSION.

4. Diagnostic Clinic (Medical). Dr. John A. Witherspoon, Nashville, Tenn.
5. Diagnostic Clinic (Surgical). Dr. John B. Deaver, Philadelphia, Pa.

AFTERNOON SESSION.

1 P. M.

6. (a) Diagnostic Clinics (Nervous Diseases). Dr. Alfred W. Adson, Dr. Henry W. Woltman, Rochester, Minn.
   (b) Diagnostic Clinic (Nervous Diseases). Dr. Charles A. Elsberg, New York, N. Y.
7. "Injuries of the Cornea." Dr. Alfred N. Murray, Chicago, Ill.
8. "Diagnosis and Treatment of Epilepsy." Dr. Edward M. Williams, Sioux City, Ia.
9. .....
10. "Respiratory Excursions of the Thorax." Dr. Charles F. Hoover, Cleveland, O.
11. "Mechanics of Production of Fractures and Methods of Treatment Derived Therefrom." (Blackboard drawings, lantern slides.) Dr. Emmett Rixford, San Francisco, Calif.
12. "The Distribution and Delivery of Medical Service." Dr. Frank E. Sampson, Creston, Ia.
13. "Tumors of the Breast; A Study of 255 Cases." (Lantern slides.) Dr. William D. Haggard, Nashville, Tenn.

EVENING SESSION.

7 P. M.

14. "The Treatment of Deformities of the Upper Extremities." Dr. Arthur Steindler, Iowa City, Ia.
15. "Dacryocystitis—Its Cure by a Combined Intra and Extra-Nasal Operation." Dr. J. Sheldon Clark, Freeport, Ill.
16. "Ectopic Gestation with Report of Cases." Dr. Thomas W. Nuzum, Janesville, Wis.
17. "The Sequelae of Some Unusual Traumata." Dr. Oliver J. Fay, Des Moines, Ia.
18. "The Management of Maternity." Dr. William D. Chapman, Silvis, Ill.
19. "Drug Addiction and the Harrison Narcotic Law." Dr. Ernest S. Bishop, New York, N. Y.

SECOND DAY.

Tuesday, October 31, 1922.

7 A. M.

1. Diagnostic Clinic (Nose and Throat). Dr. Greenfield Sluder, St. Louis, Mo.
2. Diagnostic Clinic (Pediatrics). Dr. John Lovett Morse, Boston, Mass.
3. Diagnostic Clinic (Surgical). Dr. William D. Haggard, Nashville, Tenn.

INTERMISSION.

4. Diagnostic Clinic (Medical). Dr. Lewis A. Conner, New York, N. Y.
5. Diagnostic Clinic (Surgical). Dr. John M. T. Finney, Baltimore, Md.

AFTERNOON SESSION.

1 P. M.

6. "The Development of Brain and Spinal Cord Surgery and Its Significance for the Specialist and for the General Practitioner." Dr. Charles A. Elsberg, New York, N. Y.
7. "Medical Education, Past and Present." Dr. John A. Witherspoon, Nashville, Tenn.
8. "Better End Results in Operations for Gastric and Duodenal Ulcer." Dr. John M. T. Finney, Baltimore, Md.
9. "The Modern Conception of Acidosis." Dr. Julius Weingart, Des Moines, Ia.

INTERMISSION.

10. "Results in the Treatment of Fractures" (illustrated by lantern slides). Dr. John M. Dodd, Ashland, Wis.
11. "Observations on Lobar Pneumonia." Dr. Francis G. Blake, New Haven, Conn.
12. "Cholecystitis—A Typical Manifestation." Dr. August Frederic Jonas, Cleveland, O.
13. "X-ray Diagnosis in Tuberculosis, Syphilis, and Osteomyelitis of the Bones." Dr. Robert W. Lovett, Boston, Mass.

EVENING SESSION.

7 P. M.

14. "Chronic Fatigue Intoxication." Dr. Edward H. Ochsner, Chicago, Ill.
15. Subject later.
    Dr. Walter L. Bierring, Des Moines, Ia.
16. "Early Diagnosis of Cardiac Conditions" (illustrated by lantern slides). Dr. J. A. E. Eyster, University of Wisconsin, Madison, Wis.
17. "The Control of Mandibular Pain Through the Nasal (Sphenopalatine-Meckel's) Ganglion; The Control of Earache Through the Nasal (Sphenopalatine-Meckel's) Ganglion." Dr. Greenfield Sluder, St. Louis, Mo.

INTERMISSION.

18. "Trifacial Neuralgia; Its Symptoms, Diagnosis and Treatment." Dr. Alfred W. Adson, Rochester, Minn.
19. Subject later.
    Dr. Joseph A. Pettit, Portland, Ore.

THIRD DAY.

Wednesday, November 1, 1922.

7 A. M.

1. Diagnostic Clinic (Orthopedic). Dr. Robert W. Lovett, Boston, Mass.
2. Diagnostic Clinic (Surgical). Dr. John H. Gibbon, Philadelphia, Pa.
3. Diagnostic Clinic (Medical). Dr. Francis G. Blake, New Haven, Conn.

INTERMISSION.

4. Diagnostic Clinic (Surgical). Dr. Alexander Primrose, Toronto, Can.
5. Diagnostic Clinic (Surgical). Dr. George W. Crile, Cleveland, O.

AFTERNOON SESSION.

1 P. M.

6. "Gastric and Duodenal Ulcer." Dr. John B. Deaver, Philadelphia, Pa.
7. "Malignant Tumors of the Breast." Dr. Alexander Primrose, Toronto, Can.
8. "The Diagnosis of Pericardial Effusion with Special Reference to Physical Signs on the Posterior Aspect of the Thorax." Dr. Lewis A. Conner, New York, N. Y.
9. "The Liver, Gall-bladder and Ducts." (a) Relation of the liver to the organism as a whole. (b) Its significance in surgical operations and diagnosis. (c) Possible new role of the liver. Dr. George W. Crile, Cleveland, O.

INTERMISSION.

10. "The Oedematous Cardiopath." Dr. Joseph M. Patton, Chicago, Ill.
11. "Chronic Indigestion in Children." Dr. John Lovett Morse, Boston, Mass.
12. "The Technique in Certain Forms of Osteosynthesis." Dr. Einar Key, Riddaregatan 1, Stockholm, Sweden.
13. "Physiology and Abdominal Surgery." Dr. Allen B. Kanavel, Chicago, Ill.

EVENING SESSION.

7 P. M.

14. "Surgical Judgment." Dr. John H. Gibbon, Philadelphia, Pa.
15. "Syphilis of the Nervous System." Dr. Clarence Van Epps, Des Moines, Ia.
16. "A Report on Deep X-ray Therapy of Cancer as Practiced in Germany." Dr. Roswell L. Pettit, Ottawa, Ill.

INTERMISSION.

17. "The Modern Application of Ancient Plastic Surgical Methods" (with stereopticon illustrations of the results). Dr. George V. I. Brown, Milwaukee, Wis.
18. "Multiplex Pathology and the Cancer Problem." Dr. William Seaman Bainbridge, New York, N. Y.

SMOKER.

FOURTH DAY.

Thursday, November 2, 1922.

7 A. M.

1. Diagnostic Clinic (Medical). Dr. Charles F. Martin, Montreal, Can.
2. Diagnostic Clinic (Gynecological). Dr. Walter W. Chipman, Montreal, Can.; Dr. John G. Clark, Philadelphia, Pa.
3. Diagnostic Clinic (Medical). Dr. Frank Billings, Chicago, Ill.

INTERMISSION.

4. Diagnostic Clinic (Surgical). Dr. William J. Mayo, Rochester, Minn.
5. Diagnostic Clinic (Surgical). Dr. Allen B. Kanavel, Chicago, Ill.

AFTERNOON SESSION.

1 P. M.

6. "Basic Factors in the Etiology and Therapeutics of Uterine Hemorrhage." Dr. John G. Clark, Philadelphia, Pa.
7. Subject later.
   Dr. John L. Yates, Milwaukee, Wis.
8. Subject later.
   Dr. William J. Mayo, Rochester, Minn.
9. "The Resourceful General Practitioner and Modern Medicine." Dr. Frank Billings, Chicago, Ill.

INTERMISSION.

10. "The Inflammatory Pelvic Mass." Dr. Walter W. Chipman, Montreal, Can.
11. "Some Clinical Aspects of Myocardial Disease." Dr. Charles F. Martin, Montreal, Can.
12. Subject later.
    Professor Theodor Tuffier, Paris, France.
13. Subject later.
    Dr. Andrew Fullerton, Belfast, Ireland.

BANQUET.

7 P. M.

Presidents of State Societies.
Distinguished citizens of the United States.
Eminent members of the profession.
Conferring of honorary memberships.

The Tri-State District Medical Association, which includes the territory covered by the entire states of Iowa, Illinois, and Wisconsin and districts of surrounding states, extends to the medical profession a hearty invitation to be present and participate in the program at the annual assembly, which is to be held at Peoria, Illinois, October 30, 31, November 1 and 2.

This Association is purely a scientific body. It assumes no political or legislative duties. The entire time of the assembly, outside of a few social functions, will be devoted to orations, essays, and diagnostic clinics.

A physician in order to become a member of this Association must be in good standing in the County and State Society in the territory in which he or she resides.

You are cordially invited to bring your wife, daughters or lady friend. Make your hotel reservations early (on account of the large attendance) by communicating with Dr. Sidney Eston, Secretary of General Committees, Peoria, Illinois. If you have any interesting cases for the clinics, let the Peoria doctors know.

SIGNED,

PROGRAM COMMITTEE.

Dr. George V. I. Brown, Milwaukee, Wis.
Dr. Walter L. Bierring, Des Moines, Ia.
Dr. Edward H. Ochsner, Chicago, Ill.
MANAGING DIRECTOR.
Dr. William B. Peck, Freeport, Ill.

MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS.

The report of the committee on the decline in the death rate in the Mississippi Valley by Dr. Walter McN. Miller of St. Louis, and the report of the committee on the problem of the tuberculous ex-soldier, by. Dr. W. H. Watterson, of the United States Public Health Service, will be awaited with keen interest when the Mississippi Valley Conference on Tuberculosis opens its Tenth Annual Meeting at Milwaukee on October 9, 10, and 11. The fall in the death rate of tuberculosis during the past ten years, throughout the entire United States Registration Area, has been a topic of discussion wherever tuberculosis workers meet. Of the eleven states in the Conference, there are seven whose complete reporting of vital statistics has entitled them to a place in the United States Registration Area for the ten-year period ending with 1920, the last for which Government reports are available. In these seven states the tuberculosis death rate has fallen from 121.8 in 1912 to 96.2 in 1920. The figures for Wisconsin are from 99.3 in 1912 to 85.6 in 1920.

The fact that the Government is at present building a sanatorium for the treatment of the tuberculous ex-soldiers at the Soldiers' Home, Milwaukee, lends additional interest to the report of the survey by Dr. Watterson.

Another important problem to be discussed at the Conference is "The Teaching of Tuberculosis." The adequate teaching of tuberculosis to medical students, to under-graduate nurses and in the postgraduate schools, has for many years been given rather indifferent handling and only recently is it beginning to occupy the important position that this subject deserves in the curricula of the medical schools and training schools for nurses. The leaders in this symposium will be Dr. John Peck of Iowa; Miss Adda E. Eldredge, President, American Nurses' Association, at present Supervisor of Nursing Education for Wisconsin, and Dr. J. A. Meyers of the University of Minnesota.

The Monday evening session will be an opening meeting to which the public will be invited. With such speakers as Dr. Mazyck P. Ravenel of Columbia, Mo.; Dr. Lawrason Brown, of the Trudeau Sanatorium, New York, and at present President of the National Tuberculosis Association, and Dr. David A. Stewart of the Ninette Sanatorium, Winnipeg, Canada, there can be no doubt that seats will be at a premium.

Wednesday, the last day of the Conference, will be devoted to section meetings. The one that will appeal particularly to the physician is the meeting of the Mississippi Valley Sanatorium Association, which will be held at Muirdale Sanatorium. Dr. A. T. Laird, of the Nopeming Sanatorium, Minnesota, is chairman of this section.

The Conference is one of the informal district organizations of the National Tuberculosis Association, and has for its purpose the bringing about of a close working relationship between the various anti-tuberculosis agencies and of providing a medium for the interchange of ideas and experiences.

Milwaukee and Wisconsin physicians will certainly have a splendid opportunity to glean from the numerous discussions much valuable information.

The Mississippi Valley Medical Association will hold its Forty-Seventh Annual Meeting at Rochester, Minnesota, October 10, 11, and 12. An interesting program of clinics, clinical demonstrations, and formal papers to be presented by distinguished guests has been arranged.

NEWS ITEMS AND PERSONALS

Dr. Mildred Van Cleve, resident physician at Children's hospital, Cincinnati, has been appointed physician for maternity and infant hygiene work in Wisconsin counties, under the provisions of the Sheppard-Towner act. At least one such center will be established in each county, and Dr. Van Cleve will examine mothers and children under two years. Additional nurses will be named for follow-up work. She is a graduate of the University of Illinois and of the Woman's Medical college of Pennsylvania, and had practical experience in Woman's college hospital, Amy Barton dispensary, and West Philadelphia Hospital for Women.

Dr. Benjamin E. Hedding, prominent in tuberculosis prevention work throughout the United States, and lately in charge of the Dayton, Ohio, branch of the National Soldiers' Home hospital, has arrived in Milwaukee to become connected with the National Soldiers' Home hospital here. Dr. W. M. Snell is in charge of the hospital.

For some time repairs have been going on remodeling the property erected during the war at Washburn, as quarters for the Haskell Club. This place is now to be turned into a hospital which will be opened in the near future by the Washburn Hospital Association.

Dr. C. W. Pfeifer will be postmaster at Sheboygan Falls, succeeding Geo. Wildermuth, whose term expired last January.

The old Dwyer building, on the northwest corner of West Milwaukee and Academy streets, Janesville, has been purchased by the Pember-Nuzum clinic and work on remodeling will be started soon to make the offices on the first and second floors complete and up-to-date. The personnel of the clinic is: Drs. J. F. and Aubrey Pember, T. W. and Frank R. Nuzum, Ralph Hartman, Thomas J. Snodgras and Gerald K. Woolf.

Dr. J. P. Gillis, formerly located at Polar, has opened an office at Antigo.

Plans to make Trinity Hospital a charity institution and to erect an addition to it, were made at a meeting of thirty physicians, members of the staff, at the Hotel Pfister, Milwaukee.

Public donations to obtain two hundred free beds in the institution will be sought at once. All medical attention will be without charge to persons unable to pay.

The ultimate goal of the physicians is to erect a large charity hospital on another site, it was explained.

"Boston, Detroit and other large cities have free hospitals where surgical operations are performed. There is no reason why Milwaukee should not have one," declared Dr. J. A. Purtell, chief of staff of the hospital.

"Milwaukee is considerably under hospitalized. If there were an epidemic or a serious accident we would have to use the Auditorium on account of lack of proper hospital facilities," declared Dr. M. L. Henderson.

The plan of operation would divide patients into three classes: Full charity, part payment, and full payment, Dr. Charles Coffey, announced.

Several months ago, when agitation was renewed for an extension of the public museum to the Trinity hospital site, it was decided to close the institution, but members of the hospital staff recently reconsidered their action.

Dr. Ezra Rogers, formerly interne at Columbia Hospital, Milwaukee, has located in Hartford.

Dr. Lawrence H. Oliver has opened an office at Friendship.

Dr. Arnold S. Jackson of Rochester, Minn., will in the future be located at the Jackson Clinic, Madison. Dr. Jackson has been connected with the Mayo Clinic for four years.

Ripon's proposed hospital will not be built at the present time. This action was taken by the board of directors of the association, who believe that it would be an unwise move, and will wait until conditions are more favorable before proceeding. Financial difficulties have also influenced the argument for the postponement of the building but it is expected that this can be quickly overcome when the proper times comes.

At the present time the association is endeavoring to collect the second payments of subscribers, so that the hospital may become a reality at the earliest possible date.

The Eye Sight Conservation Council of America, as a result of various inquiries and requests, is establishing a special mailing list of those who wish to receive material of service to lecturers and writers on the subject of Conservation of Vision.

There is need throughout the nation for lecturers who will appear before local organizations and address such organizations as Rotarian and Kiwanis Clubs, Mothers and Parent-Teachers' Associations, Chamber of Commerce, Merchants' Associations, Schools, Colleges, etc., to present the important subject of eye care and the great need of conservation of vision.

Any who are interested in this work should write direct to the Eye Sight Conservation Council, Times Building, New York City, requesting that their name be entered on a special list of those to receive data and material which will be prepared and issued periodically.

On petition of Dr. Oscar Lotz of Milwaukee, the attorney general's department in circuit court here recently started proceedings against Lotz's successor as a member of the state board of medical examiners, Dr. R. B. Cunningham of Chippewa Falls.

Gov. Blaine in appointing Cunningham last October, failed to take his appointee from the list submitted by four medical associations of the state as required by law, deputy attorney general Ralph M. Hoyt said in the ouster complaint.

The attorney general's department last June gave an opinion that the appointment was illegal and Dr. Lotz immediately petitioned the state to start to remove his successor.

If Dr. Cunningham is removed from office, Dr. Lotz will revert to the board, until another appointment is made, by the governor.

Dr. J. V. R. Lyman of Eau Claire was painfully bruised when D. L. Thorp smashed his car head on against the left front wheel of the electric coupe the doctor was driving.

Dr. A. J. Kampmeier has returned to Menasha after completing a course in the eye, ear, and throat hospital of Cornell University.

More than 5,000 Wisconsin people have been examined by the Traveling Free Chest Clinic of the Wisconsin Anti-Tuberculosis Association in 1922, according to a report of the first six months activity, this year. Over one-third of the counties in the state have been visited and 77 clinics have been held. Of the 4,447 patients examined, 924 were found to have tuberculosis in some form or other. This classification includes: 278 cases of presumptive tuberculosis, 250 cases of suspicious tuberculosis, 67 cases of tuberculosis glands and a number of other tuberculous conditions. It also included 193 patients with healed lesions and 76 with quiescent tuberculosis. The condition of 189 of the tuberculous patients was such that immediate sanatorium treatment was urged.

The clinic is not limited to tuberculosis, although dis-

covering early cases is its main object. Among the other findings were: simple goiter, 1,565; toxic goiter, 121; diseased tonsils, 1,375; decayed teeth, 1,225; organic heart trouble, 245; more than ten per cent underweight, 326. Less than 600 of those examined were found free from defects of the lungs, heart, glands, teeth, nose and throat, and 3,089 were referred to their local physicians for various causes. Over 1000 of the patients had been directly exposed to tuberculosis at some period in their lives.

Among the counties visited this year were: Columbia, Jefferson, Walworth, Dodge, Milwaukee, Eau Claire, Rock, Brown, Lincoln, Marinette, Sheboygan, Dane, Grant, Buffalo, Pierce, Polk, Ashland, Manitowoc, La Crosse, Trempealeau, Winnebago, Waupaca and Sauk. Many of the communities have had several visits and in a number yearly or semi-annual clinics are a rule.

Although the clinic work is financed to a large extent through funds raised through the sale of Christmas seals, which support all health work of the Wisconsin Anti-Tuberculosis Association, local expenses are borne by some organization in the community visited. The Red Cross, local Anti-Tuberculosis Associations, County Public Health Committees, and County Boards have made appropriations for clinics in various communities.

Since the Traveling Chest Clinic was started three years ago, over 16,000 Wisconsin people were examined, and of this number 18 per cent were found tuberculous. Many have since taken treatment and have regained their health, as a direct result of the clinics. The state association with the co-operation of local public health nurses follows up all the clinic cases.

DEATHS.

Dr. H. Hannum, pioneer physician of Bayfield, who has been in poor health for some time, passed away August 16 at the home of his son, Dr. Frank Hannum, at Muskegon, Michigan. Dr. Hannum was a graduate of Rush Medical College.

Dr. A. A. Poppe, Adams, died at Emergency Hospital, Milwaukee, August 16, where he was taken after a sudden attack of illness.

Dr. Albert J. Herschmann, Milwaukee physician, and for many years Austrian consular agent, was found dead in his office July 31.

MARRIAGES.

Miss Bessie Lord, Fennimore, to Dr. Leroy Jacobson, Delavan, August 7.

Miss Helen F. Murphy, Fond du Lac, to Dr. J. E. Twohig, Fond du Lac, August 22.

ALCOHOLIC INJECTION OF SECOND AND THIRD DIVISIONS OF TRIGSMINAL NERVE.

Francis C. Grant, Philadelphia (*Journal A. M. A.*, June 10, 1922), reports the cases of seventy-five patients treated by Charles H. Frazier by alcoholic injection, sixty-six for neuralgia, eight for malignancies about the face and jaws, and one for masseter spasm. In all, ninety-four injections were made in seventy-five cases, forty in the second division and fifty-four in the third division. Curiously enough, the right fifth was involved in forty-six cases and the left in twenty. In the neuralgia cases the average age was 55 years, the youngest 23, the eldest 81. There have been no serious complications as a result of these injections. In the attempts made to reach the third division for the relief of neuralgia, thirty-three were successful and twelve failed, at the first attempt. In every patient who returned for subsequent injection the nerve was eventually reached. Eight injections of the third division were made in the presence of a malignant growth. Five were successful, and three unsuccessful. Including all cases of third division injections, numbering fifty-four, thirty-nine were successful, and fifteen failed at the first attempt, a rate of failure of 28 per cent. In the second division series, forty injections were performed: thirty-eight for neuralgia, and two for carcinomatous degeneration. Of the thirty-eight injections for neuralgia, thirty-one were successful, and seven unsuccessful in the first instance, an average of 18.6 per cent of failure. Both injections for relief of pain consequent to malignant change were effective. In forty injections of the maxillary division, seven were failures, an average of 17.5 per cent. Grant ascribes the large degree of success to the use of the zygometer and protractor devised by Frazier.

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NEW BOOKS WORTH WHILE

Labrador—The Country and the People. By Wilfred T. Grenfell. M. D. New Edition, Revised. The MacMillan Co., New York. 1922.

Endocrine Glands and the Sympathetic System. By P. Lereboullet and others. Translated by F. R. Mason. M. D. Philadephia and London. J. P. Lippincott Company.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M. D. With a chapter on Hospital Management of Goiter Patients. 106 original illustrations. St. Louis. C. V. Mosby Company. Price $5.00.

The Psychology of Thought and Feeling. By Charles Platt, M. D. (London) New York. Dodd. Mead and Company. 1921.

The Habit of Health. By Oliver Huckel. New York. Thomas Y. Crowell Company. Price $1.00 net.

Clinical Diagnosis and Symptoms. By Alfred Martinet, M. D. (Paris) Translated by Louis T. deM Sajous. 895 engravings and color plates. Volumn II. **Analysis of Symptoms.** Philadelphia, F. A. Davis Company. 1922.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D. 5th Edition, revised and enlarged. 151 Half tones with 93 full page plates. Philadelphia. F. A. Davis and Company. 1922.

Transactions of the American Pediatric Society, Thirty-Fourth Session. Washington, D. C., May 1922. Edited by Henry L. K. Shaw, M. D. Volumn XXXIV.

The Trend of the Race. By Samuel J. Holmes, Ph. D. New York. Harcourt, Brace and Co., New York. 1921.

Obstetrics for Nurses. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. New (6th) Edition, entirely reset. 12mo of 525 pages, with 245 illustrations. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $3.00 net.

Principles and Practice of X-ray Technic for Diagnosis. By John A. Metzger, M. D. 61 illustrations. St. Louis. C. V. Mosby Company. $2.75.

Diseases of the Skin. By Henry H. Hazen, M. D. 2nd Edition. 241 Illustrations. 2 Color Plates. C. V. Mosby Company, St. Louis. 1922. $7.50.

The Surgical Clinics of North America (Issued serially, one number every other month). Volume II, Number III (Chicago Number June 1922) 289 pages, with 89 illustrations. Per clinic year (February, 1922 to December, 1922). Paper $12.00 net; Cloth $16.00 net. Philadephia and London: W. B. Saunders Company.

The Surgical Clinics of North America (Issued serially, one number every other month). Volume II, Number IV (Boston Number August 1922), 270 pages, with 107 illustrations. Per clinic year (February, 1922 to December, 1922). Paper $12.00 net; Cloth $16.00 net. Philadelphia and London: W. B. Saunders Company.

The Technique of Psychoanalysis. By David Forsyth, M. D., F. R. C. P. Moffat Yard Co., New York. $2.00

Studies in Dreams. By Mrs. H. O. Arnold-Forster. The MacMillan Co., New York. 1921.

Will-Power and Work. By Julius Payot, Ph. D. Funk & Wagnalls Co., New York, 1921. Price $1.75, net.

Clinical Diagnosis. By Alfred Martinet, M. D., Paris. France. Translation by Louis T. deM. Sajous, B. S., M. D. 895 engravings and several full page color plates. In two volumes. Volume 1, Physical and Laboratory Diagnosis. F. A. Davis Co., Publishers, Philadelphia. 1922.

The Medical Clinics of North America (Issued Serially, one number every other month), Volume V, Number VI, May, 1922. By Chicago Internists. Octavo of 308 pages and index to Volume V complete with 22 illustrations. Per clinic year (July, 1921, to May, 1922). Paper, $12.00. Cloth, $16.00, net. Philadelphia and London: W. B. Saunders Company.

Applied Psychology for Nurses. By Mary F. Porter, Highland Hospital, Asheville, N. C. 12mo of 172 pages. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $1.50, net.

The Writing of Medical Papers. By Maud H. Mellish, Editor of the Mayo Clinic Publications. 12mo. of 157 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $1.50, net.

An Introduction to Child Psychology. By Charles W. Waddle, Ph.D. Houghton-Mifflin Company, New York.

Mental Disease a Public Health Problem. By James V. May, M. D. Richard G. Badger. The Gorham Press, Boston.

Heredity and Environment in the Development of Man. By Edwin Grant Conklin. Princeton University Press. Princeton, 1922. Price, $2.50.

Human Efficiency and Levels of Intelligence. By Henry Herbert Goddard. Princeton University Press. Princeton. Price, $1.50.

How the Mind Cures. By George F. Butler, A. M., M. D., New York. Alfred A. Knopf, Publisher. Price, $2.50.

Juvenile Delinquency. By Henry Herbert Goddard. Dodd, Mead and Company, New York. 1921.

Instinct and the Unconscious. By W. H. R. Rivers, M. D. Second edition. The Macmillan Company, New York. 1922.

Applied Chemistry. By Fredus N. Peters, Ph.D. Illustrated. C. V. Mosby Company, 1922. Price, $3.50.

Symptoms of Visceral Disease, A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, M. D. Second edition; 86 illustrations; 10 colored plates. C. V. Mosby Company, St. Louis. 1922.

Transactions of the American Pediatric Society, 33d Session. Edited by Joseph Brennemann, M. D., 1921.

Psychoanalysis and the Drama. By Smith Ely Jelliffe, M. D., and Louise Brink, A. B. Nervous and Mental Disease Publishing Co., New York and Washington. 1922.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By George E. deSchweinitz, M. D., LL.D. Ninth edition, reset. Octavo of 832 pages with 415 text illustrations and 7 colored plates. Philadelphia and London: W. B. Saunders Company, 1921. Cloth, $10.00, net.

The Practice of Medicine. By A. A. Stevens, M. D. Octavo of 1,106 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.50, net.

American Medical Association Pamphlets. Four pamphlets of from 16 to 68 pages. Illustrated. 50 cents. A. M. A. Journal, 535 North Dearborn Street, Chicago.

The Principles of Physics and Biology, Radiation Therapy. By Bernard Kroenig, M. D., and Walter Friedrich, M. D., University of Freiburg im Breisgau. Only authorized edition by Henry Schmitz, M. D. Rebman Company, New York.

Radium Therapy. By Frank Edward Simpson, A. B., M. D. With 166 original engravings. St. Louis. C. V. Mosby Company. 1922.

BOOK REVIEWS

Labrador—The Country and the People. By Wilfred T. Grenfell, M. D. New edition, revised. The MacMillan Co., New York. 1922.

To the reviewer it would seem that there could be no more fascinating and human story than Dr. Grenfell's account of his experiences in Labrador. For years we have admired him from afar, but had the pleasure of meeting and knowing this unusual man on his recent visit to Wisconsin. His rather pretentious work of some five hundred pages, is romance, adventure and science as well as a historical account of medical missonary work, done under the greatest of difficulties. The story is fascinating and will hold the interest of the reader from beginning to end, especially the medical man who is urged to purchase it.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M. D. With a chapter on Hospital Management of Goiter Patients. 106 original illustrations. St. Louis. C. V. Mosby Company. Price $5.00.

This is a well-written, well-illustrated work on the thyroid, covering "Etiology and Pathogenesis," "Normal and Pathologic Anatomy," "Symptomatology," "Diagnosis," "Prognosis," "Treatment," "Technic of Operations," and the "Hospital Management of Goiter Patients." The work should receive a popular reception.

Endocrine Glands and the Sympathetic System. By P. Lereboullet and others. Translated by F. R. Mason, M. D. Philadelphia and London. J. P. Lippincott Company.

This is a most timely work on a subject which has aroused a widespread interest in the medical profession. A subject about which much has been written both good and bad. It deals with general consideration of the endocrine glands and their pathology. The authors have condensed into the volume of four hundred pages our present-day knowledge of the subject, and have fortunately avoided many of the fanciful theories we read nowadays. Very appropriately, the study of the sympathetic system has been included. It is a valuable work and well worth while.

The Psychology of Thought and Feeling. By Charles Platt, M. D. (London), New York. Dodd, Mead and Company. 1921.

This is a conservative interpretation of results in modern psychology; a common-sense book, the author of which has avoided favoritism for any school of psychology, and followed his own logic. It is the outgrowth of a series of lectures. It covers such subjects as "Fundamental Conceptions," "Inherited Dispositions," "Habit," "Memory," "The Subconscious Mind," "Mental Ills," "The Delinquent," etc.

The Habit of Health. By Oliver Huckel. New York. Thomas Y. Crowell Company. Price $1.00 net.

These papers are the final outcome of a series of conferences held at Johns Hopkins Medical School, read by Oliver Huckel, then pastor of the leading church in Baltimore, and having for their purpose the closer cooperation between ministers and physicians in the work of healing. They were brought together under the title of "Mental Medicine" by Dr. Lewellys F. Barker. The present book answers a demand which would embody these subjects in a briefer form.

Clinical Diagnosis and Symptoms. By Alfred Martinet, M. D. (Paris). Translated by Louis T. deM. Sajous. 895 engravings and color plates. Volume II. Analysis of Symptoms. Philadelphia, F. A. Davis Company. 1922.

The second volume of this splendid work on clinical diagnosis is given over to the subject of "Analysis of Symptoms". In the practice of medicine the patient comes to the physician complaining of the symptom which must be traced back to its underlying cause, accomplished by verbal and physical examination which enables the practitioner to group about the principal symptom the remaining necessary data, signs and symptoms;—in short, by a mental correlation of these data. This work takes up in different chapters symptoms complained of by the patient, and the author explains how, with the assistance of the previous or concomitant accessory symptoms, and in the light of these data a concrete diagnosis may be arrived at. It is an unusual work, approaching diagnosis from an angle seldom found in texts, and is illustrated by cuts, tables and color plates.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D. 5th edition. revised and enlarged. 151 half tones with 93 full page plates. Philadelphia. F. A. Davis and Company. 1922.

Dr. Bassler has found the necessity to rewrite the first edition of his popular text which appeared some ten years ago, to keep up with the times. Much new matter has been added in the X-Ray examination, and the now generally accepted fractional test-meal method of gastric analysis is fully presented. The gastric response to foods and much new matter too numerous to mention will be found in the clinical side of the subject. The work measures in every respect to any American text on this branch of medicine and is most highly recommended.

The Trend of the Race. By Samuel J. Holmes, Ph. D., New York. Harcourt, Brace and Co., New York. 1921.

This is a study of present tendencies in the biological development of civilized mankind, and makes available to the layman the latest results of scientific study in regard to the various forces which are at present modifying the inherited qualities of civilized man. It is the outgrowth of a course of lectures in Eugenics which have been given for several years in the University of California. Such subjects as "The Hereditary Basis of Civilization," "The Inheritance of Mental Defects and Disease." "The Inheritable Basis of Crime and Delinquency," "The Causes of the Declining Birth Rate," and "The Selective Influence of War," are admirably handled. It is a noteworthy work and is highly recommended.

Obstetrics for Nurses. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School. Chicago. New (6th) edition, entirely reset. 12mo of 525 pages, with 245 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth $3.00 net.

This is the sixth edition, entirely reset. of what is to our mind the best text on Obstetrics for Nurses. The text of the last edition has been carefully reviewed and brought up to date. New matter has been added and several new subjects introduced. The work is beautifully gotten together and most liberally illustrated with half-tones and colored plates. It is certainly a standard for the nurses' training school.

Principles and Practice of X-Ray Technic for Diagnosis. By John A. Metzger, M. D. 61 illustrations. C. B. Mosby Company, St. Louis. $2.75.

The author states his aim in the preparation of this book is to put into the hands of the student and operator a formula on which to base his work in order that he may obtain better results and thus be able to obtain and reach a more correct diagnostic interpretation. The work is clearly written, splendidly illustrated, and will prove a most helpful aid especially to the general practitioner making use of the X-ray in every day diagnosis.

Diseases of the Skin. By Henry H. Hazen. M. D. 2d edition. 241 illustrations. 2 color plates. C. W. Mosby Company, St. Louis. 1922. $7.50.

Dr. Hazen's first edition was enthusiastically received as one of the best shorter texts on skin diseases. The second edition of the book has been rewritten and especial emphasis has been put upon X-ray treatment and radium, and upon Kromayer lamp treatment. Interesting changes are noted in the chapters on Eczema, and new pages are devoted to Disturbances Due to the Vegetative Nervous System, Naevus Anemicus and the Retention Cyst of the Lip. The Pathology and Treatment of Syphilis is more extensively dealt with. Dr. Hazen is to be congratuated on his new edition.

The Technique of Psychoanalysis. By David Forsyth, M. D., F. R. C. P. Moffatt Yard & Co., New York. $2.00.

This little work of 133 pages discusses three main topics. First, The Analyst Himself; second, Prerequisites of the Treatment; third, The Analysis Proper. It owes its inception to an address given the members of the Psychoneurological Society in London. It presupposes some knowledge of psychoanalysis on the part of the reader, but gives a much needed technic for which a beginner would strive for years. It is an excellent little work.

Clinical Diagnosis. By Alfred Martinet, M. D., Paris, France. Translation by Louis T. deM. Sajous. B. S., M. D. 895 engravings and several full page color plates. In two volumes. Volume 1, Physical and Laboratory Diagnosis. F. A. Davis Co., Publishers, Philadelphia. 1922.

The first part of this excellent work takes up general consideration on diagnosis—the present state of diagnostic science and its evolution, ignorance, faulty examination and errors of judgment. The second part takes up special medical diagnostic procedures such as Examination of Digestive Tract, the Respiratory Tract, the Circulatory System, the Genito-Urinary Tract and General Technical Procedures such as Parasitology and Bacteriology. Thirty pages are also given to a discussion of systematic medical examinations. The plan followed is one of marked simplicity and it is a work which more than merits a popular approval.

Will-Power and Work. By Julius Payot, Ph. D. Funk & Wagnalls Co., New York, 1921. Price $1.75. net.

This work takes up such subjects as "Love of Work the Condition of all Progress," "Real Intelligence and Great Men," "Attention," "Memory," "Instruction Through Reading," and "Methods in Various Branches of Study." It deals particularly with the development of that practical energy which makes for real success in life. It is a study of self-culture which will make a strong appeal to those who would increase their mental efficiency and power of accomplishment.

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THE ATONIC ABDOMINAL WALL

The attention of Chesney Ramage, Fairmont, W. Va., (*Journal A. M. A.*, June 17, 1922), was directed to this condition by a large number of strong, healthy coal miners who complained of all known ills and had in common an atonic abdominal wall. The symptoms, as a rule, are general abdominal discomfort, headache, discomfort after meals, constipation and abdominal pain after lying down, relieved toward morning. There is absence of anorexia, abdominal tenderness on palpation, leukocytosis, fever, anemia and impotence. Physical examination constantly revealed good general nutrition, extreme bulging of the lower half of the abdomen, and remarkably poor tone to the rectus muscles of the abdomen. This was made especially noticeable in men who were muscled like Hercules, men engaged in the most arduous toil, whose deltoids were huge blocky masses, and whose backs and thighs were hard and corded. The question arose as to why this group of abdominal muscles should be so attenuated. Lack of use, and therefore lack of tone to the muscle from some intra-abdominal condition apparently was the cause. The most reasonable working hypothesis appeared to be that there was a voluntary inhibition of the abdominal musculature on account of the pain of their pull on a broken rib to which they were attached, or during the period of acute abdominal pain when their relaxation gave relief to the patient. As long as the local condition causing the relaxation existed, naturally, the inhibition to the nerves controlling these muscles would continue. Ramage has depended for a cure almost entirely on exercises tending to develop the abdominal muscles. The best exercise appeared to be to lie supine on the floor and rise to a sitting posture without the use of the hands. This was to be practiced assiduously morning and evening to the limit of the patient's endurance. The results are surprising.

EFFECT OF TONSILLECTOMY ON GENERAL HEALTH IN FIVE THOUSAND CHILDREN.

Of 10,000 children on whom tonsillectomy has been performed under uniform conditions, 5,000 have been reexamined by Albert D. Kaiser, Rochester, N. Y. (*Journal A. M. A.*, June 17, 1922), one year after operation, and a detailed history of the child's complaints tabulated before and after operation. Analysis of the causes for operation shows that obstructive symptoms or evidences of tonsillar infection existed in 99 per cent. of the cases. In 5,000 children reexamined, the greatest improvement came to the group that showed evidence before operation of obstruction and infection. Obviously, a child suffering from obstructive tonsils and adenoids with symptoms of infection should have the benefit of tonsillectomy. Considerable improvement in the child's general health was noted in the group that presented evidences of infection from the tonsil but when the tonsil presented no marked hypertrophy. Undoubtedly this group showed benefit from this operation. No marked change was found in the child's general condition in the group operated for hypertrophy only. There was less malnutrition in this group. One year is too short a period in which to determine the benefits of the operation to this group. Taken as a group, there was a very decided improvement in the general condition of the children operated on. The nutritional status was improved in many instances. The high percentage of undernourished children one year after operation, 29 per cent, suggests that diseased tonsils are only a small factor in the production of malnutrition. The operative risk is not great, for 10,000 children were operated on without a surgical fatality, and postoperative complications occurred in only a small percentage of the children, assuring reasonable safety if proper care is taken. The ultimate effect of the operation on a child cannot be determined at the end of a year; but at that time 81 per cent of the children have been considered in better general health, as indicated by their physical examination and analysis of their complaints.

WASSERMANN VARIATIONS.

It is firmly believed, says Lester J. Palmer, Seattle (*Journal A. M. A.*, Aug. 26, 1922), that the great variety of technics now employed throughout the country as complement fixation methods for syphilis undoubtedly accounts for much of the variation in reactions and consequent growing lack of confidence in a test of undoubted virtue. It is believed that a great deal of this variation would be corrected by a standardized technic. This standardized technic should be sufficiently sensitive to detect the latent cases, with small amounts of reagent in the blood, and yet not so sensitive as to interfere with specificity and permit of false positive reactions. The greatest sensitivity permissible with safety should be used. A second and possibly greater factor in the variation of results is the technican. The technician should report what the test tube shows, and the interpretation of the result rests entirely with the clinician. The requirements for technicians before they are permitted to perform complement fixation tests for syphilis should be very high, and the right to perform such tests should be regulated by proper authority. A third, and possibly the greatest, factor in the difficulties attending Wassermann tests today is the lack of knowledge of the profession at large concerning the interpretation of the laboratory report. A positive or a negative Wassermann reaction should never be considered final when it conflicts with the clinical evidence, unless repeatedly checked through more than one laboratory. A weak positive reaction without clinical evidence should never be considered diagnostic of syphilis.

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ADDRESS OF THE PRESIDENT.

State Medical Society of Wisconsin, Green Lake, Sept. 6, 1922.

BY SIDNEY S. HALL, M. D.,
Ripon.

To the members of the State Medical Society of Wisconsin.

In coming before you may I be permitted to say a few words in appreciation of the new honor that you have conferred upon me.

I have watched the growth of this Society with a constant interest for just fifty years.

I have mourned the departure of many of the men who began the work of its construction and cherished its interests and added to its renown.

I have greeted the new faces as they appeared among us as the years came and departed.

My high esteem of the organization and of its members has never grown less and I hope that I may have been of some little use in the efforts that have been put forth for the good of our profession, and for better health of the people.

May you long keep on with the good work, as Medical Societies have always done.

My first introduction to this Society happened in June, 1872, when, accompanied by my old friend, Dr. Almon Clark, I drove my horse through the night, from Sheboygan to Fond du Lac, to attend the annual meeting. We attended the meeting during the day, and returned over the same road the next night.

Dr. E. L. Griffin, of Fond du Lac, presented the address of the Chairman of the Committee on Arrangements. He said, "It is eminently fitting that you should have selected this city as your place of meeting. Thirty-one years ago the place where we are now convened was an open and beautiful prairie—marred by no sign of advancing civilization, excepting the humble cabins of two or three adventurous families.

In one of these isolated and humble dwellings, at this early period, lived the man—broad in his views and wise in his forecast—who, so far as we can learn, first matured the plan of a medical organization in the, then, Territory of Wisconsin. I refer to the late Doctor Mason C. Darling, whose brain originated and whose pen wrote the organic Act under which this Society was organized, and who was honored by his corporate associates as president of this Society for the first six years of its existence.

One of the fathers of our art, who sleeps within
"The low green tent
Whose curtain never outward swings."

His earnest and early endeavors to organize the scattered and isolated members of the profession into a State Society, should assign him a niche in the temple of our profession so long as this Society shall continue to exist.

The Treasurer, Dr. J. T. Reeve, announced that, after paying expenses of the previous year, there was a balance of two dollars and sixty-one cents.

I will add but a short quotation from the Presidential Address of Dr. John Favill.

He said, in closing:

"The State Medical Society has fallen upon properous times, and into vigorous hands. I have watched its progress since the winter of 1849, when it held its session in a borrowed barber's shop in the basement of the old United States Hotel, in the village of Madison.

Its struggles for life have been manifold, and the results various. Sometimes well, sometimes feeble, sometimes sick, sometimes dying, until under the crush of war, it remained so long without breathing, that its own blood relations pronounced it dead.

In 1867 my old friend, Dr. Van Dusen, of Mineral Point, who always cherished the infant with paternal love, while gazing upon its silent face, thought he saw signs of life, and wrote the signs to Dr. Dousman—God bless him—and to me; and so we agreed to take the corpse to Janesville, and call in the young men to chafe its limbs and breath upon it.

Young men of the Society: do not imagine because you find it stalwart and strong, that it will grow without food. Bring to it the choicest of your vineyards, and the fattest of your flocks.

Keep alive your Ethics. But in your fraternal relations, I pray you, do not forget that the es-

sence of Ethics can never be written—Aye, it is too subtle for human speech. Keep aflame the unwritten law."

It is a common, and, I believe, a good custom at anniversaries to recall past history. It is my purpose to mention but one of a large number of men who had a leading part in the remarkable progress of medical science in the nineteenth century.

Nearly every one of the works on physiology published in the last century mentions the work of Dr. William Beaumont, in the case of Alexis St. Martin.

I have been very much interested in reading two papers on this subject: one, an address by Dr. William Osler, read at the annual meeting of the St. Louis Medical Society, at St. Louis, Oct. 14, 1902, published in the Journal of The American Medical Association, Nov. 15, 1902, and a sketch of Dr. Beaumont's life, by his grand-niece, Deborah Beaumont Martin, Librarian of the Kellogg Public Library, of Green Bay, published in The Wisconsin Magazine of History, March, 1921. William Beaumont lived on his father's farm in Lebanon, Connecticut until he was twenty-two years old.

He then left home, and went out to seek his fortune. His possessions were a horse and cutter, a barrel of cider and one hundred dollars.

He traveled over the western part of Massachusetts and Vermont, and arrived in Champlain, N. Y., on the western shore of Lake Champlain. He taught school three years, studying medicine in his spare time.

Then he was a medical student in the office of Dr. Benjamin Chandler, at St. Albans, Vt.

At the beginning of the war of 1812 he entered the Army, as Surgeon's Mate.

He served in a number of engagements, and won a reputation as a surgeon.

After the close of the war he practiced his profession at Plattsburgh until 1820 when he again entered the army as a surgeon and was ordered for service at Fort Mackinac, on Mackinac Island.

On June 6, 1822, a young French Canadian was shot, at short range, not more than two or three feet, by the accidental discharge of a shotgun (not a musket).

In the words of Dr. Beaumont: "The wound was received just under the left breast, and supposed, at the time, to have been mortal. A large portion of the side was blown off, the ribs fractured and openings made into the cavities of the chest and abdomen, through which protruded portions of the lungs and stomach, much lacerated and burnt, exhibiting altogether an appalling and hopeless case. The diaphram was lacerated and a perforation made directly into the cavity of the stomach, through which food was escaping at the time I was called to his relief. His life was at first wholly despaired of, but he very unexpectedly survived the immediate effects of the wound and, by the blessing of God, finally recovered his health and strength.

At the end of two years the patient became able to walk and help himself a little, though unable to provide for his own necessities.

In this situation the patient was retained in the family of Dr. Beaumont, at his own expense for the purpose of making physiological experiments.

In May, 1825, nearly three years after the accident, Beaumont began his experiments. He continued them until the next August; taking St. Martin with him to Fort Niagara, then to Burlington and Plattsburgh.

Then, Alexis escaped, without leave, and returned to Canada, where he married, and worked as a voyageur.

Then, after four years, in 1829, Dr. Beaumont, after much trouble and expense, succeeded in getting Alexis back; this time at Fort Crawford, Prairie du Chien, and continued experiments until March, 1831, when the patient again returned to Canada.

Dr. Osler, as illustrating the mode of travel at that time, says: "Beaumont states that St. Martin took his family in an open canoe via the Mississippi, passing by St. Louis, ascended the Ohio river, then crossed the State of Ohio to the Lakes and descended the Erie and Ontario and the river St. Lawrence to Montreal, where they arrived in June."

Dr. Beaumont often laid stress on the physical vigor of St. Martin as showing how completely he had recovered from the wound.

In November, 1832, St. Martin returned to Dr. Beaumont, and, at Plattsburgh and Washington the experiments were continued.

The last recorded experiment was in November, 1833.

Dr. Beaumont made, in all, 238 observations and experiments.

Dr. Osler, speaking of the value of Beaumont's observations, said: "There had been other instances of artificial gastric fistula in man which had been made the subject of experimental study, but the case of St. Martin stands out from all others on account of the ability and care with which the experiments were conducted."

"The value of these experiments consists partly in the admirable opportunities for observation, and partly in the candid and truth-seeking spirit in which all of his inquiries were conducted. It would be difficult to point out any observer who excels him in devotion to truth and freedom from the trammels of theory or prejudice. He tells plainly what he saw and leaves everyone to draw his own inferences, or, when he lays down conclusions, he does so with a degree of modesty and fairness of which few perhaps in his circumstances would have been capable."

To show the current knowledge of the time of the physiology of digestion, Dunglison's Physiology, published about the same time as the book of Dr. Beaumont mentions several old theories, such as concoction, putrefaction, trituration, fermentation and maceration.

Dunglison also quotes Hunter's remark, "Some physiologists will have it, that the stomach is a mill, others that it is a fermenting vat, others again that it is a stew-pan; but, in my view of the matter, it is neither a mill, a fermenting vat nor a stew-pan; but a stomach, gentlemen, a stomach."

Beaumont said that pure gastric juice, when taken out of the stomach of a healthy adult, unmixed with any other fluid, save a portion of the mucus with which it is commonly or always combined, is clear, transparent, inodorous, a little saltish, and very perceptibly acid.

Its taste is similar to muciaginous water slightly acidulated with muriatic acid. It is readily diffusible with water, wine or spirits; slightly effervesces with alkalies, and is an effectual solvent of the alimentaria. It possesses the property of coagulating albumen in an eminent degree, is powerfully antiseptic, checking putrefaction of meat, and effectively restorative of healthy action when applied to old foetid sores and foul ulcerating surfaces.

He confirmed the previous observation of others, that the gastric juice acid was muriatic.

He determined that the gastric juice and mucus were separate secretions.

He established the fact of a profound effect of mental disturbances on the stomach secretions.

He conformed the observations of Spallanzani and Stevens by a comparative study of digestion in the stomach and digestion outside of the body.

He made the first thorough observation of the motions of the stomach.

He made a study of the digestibility of different articles of diet in the stomach.

Dr. Osler says: "An all important practical point insisted upon by Dr. Beaumont needs emphatic reiteration in this generation: 'The system needs much less than is generally supplied it. The stomach disposes of a definite quantity. If more be taken than the actual wants of the economy require, the residue remains in the stomach and becomes a source of irritation and produces a consequent aberration of function, or passes into the lower bowel in an undigested state, and extends to them its deleterious influence.'

Dyspepsia is more often the effect of over eating and over drinking than of any other cause."

Dr. Beaumont was stationed at Fort Howard, at Green Bay from 1826 to 1828. He must have been about the first physician in the territory that is now the State of Wisconsin.

His brilliant reputation is still held in esteem in that vicinity. The Green Bay people have preserved the old buildings, and are preserving many relics of the early days.

Dr. Beaumont was ordered to Fort Crawford in 1828, and in 1835 became Post Surgeon at Jefferson Barracks, St. Louis, and afterwards practiced his profession in St. Louis during the rest of his life.

As long as he lived, he tried to get Alexis St. Martin back. He died in St. Louis in 1853. This year is the hundredth anniversary of the accident that helped to make Dr. Beaumont famous.

In drawing this short and very imperfect story of Dr. William Beaumont I only hope that I have renewed the interest that my hearers may previously have had, and to once more put his name on record for the good of the profession.

In the way of a summary, I will quote the words of Dr. William Osler, in his address at St. Louis.

"He was gifted with strong natural powers, which working upon an extensive experience in

life, resulted in a species of natural sagacity, which, as I suppose, was something peculiar to him, and not to be obtained by any course of study. His temperament was ardent, but never got the better of his instructed and disciplined judgment, and whenever or however employed, he ever adopted the most judicious means for attaining ends that were always honorable.

In the sick-room, he was always a model of patience and kindness, his intuitive perceptions, guiding a pure benevolence, never failed to inspire confidence, and thus he belonged to that class of physicians whose very presence assures Nature a sensible relief.

You do well to cherish the memory of *William Beaumont.* The profession of the northern State of Michigan has honored itself in erecting a monument to his memory near the scene of his disinterested labors in the cause of humanity and science.

But he has a far higher honor than any you can give him here—the honor that can only come when the man and the opportunity meet—and match.

Beaumont is the pioneer physiologist of this country, the first to make an important and enduring contribution to this science. His work remains a model of patient, persevering investigation, experiment and research, and the highest praise we can give him is to say that he lived up to and fulfilled the ideals with which he set out and which he expressed when he said: "Truth, like beauty, when 'unadorned', is adorned the most, and, in prosecuting these experiments and inquiries, I believe that I have been guided by its light.' "

THE SYMPTOMATOLOGY AND DIAGNOSIS OF RENAL TUBERCULOSIS.*

BY JAMES C. SARGENT, M. D.,

PROFESSOR OF GENITO-URINARY SURGERY, MARQUETTE UNIVERSITY.

MILWAUKEE.

Mr. Chairman, members of the Society, and visiting physicians, I want to recall your attention this afternoon to the symptom-complex and diagnostic features of one of the most common diseases with which the Urologist has to deal. I speak of tuberculosis of the kidney, together with its inevitable sequellae, tuberculosis of the ureter and bladder.

Urinary tuberculosis begins with the metastatic deposit of tubercle bacilli in the parenchyma of the kidney. One or more miliary tubercles are formed and increase in size until centralized degeneration occurs and a tubercular abscess is formed. This usually ruptures into the pelvic cavity of the kidney after which the urine coming from that kidney is laden with tubercle bacilli. These bacilli sooner or later implant themselves within the mucous membrane of the ureter and bladder producing tuberculosis of those structures. Without interference the normal kidney becomes involved and in time the individual is overcome with a generalized tuberculosis.

Pain is by no means constant in renal tuberculosis and even when present is usualy minimized in comparison by the more aggravating symptoms. The gradual development of tubercular abscesses within the kidney produces more or less intracapsular tension and as a consequence a dull aching pain in the kidney region is often experienced. Occasionally the progressive tuberculous erosion of kidney substance opens a fairly large blood vessel and the resulting blood clots produce severe ureteral colic during their passage to the bladder.

I have mentioned erosion of blood vessels by tuberculous ulceration within the kidney. Transient gross hematuria is one of the earliest and most constant symptoms of renal tuberculosis. The majority of individuals with renal tuberculosis has at some time passed noticeably bloody urine. Such hematuria is usually painless and occurs in varying degrees. There may be weeks during which the urine remains free from visible blood and then a heavy shower of blood appears for several days. In others the blood occurs in less amounts but more constantly.

With tubercle-laden urine flowing over its surface the mucosa of the bladder in time becomes infected. It is at this stage in the disease that we have the classical symptom complex of renal tuberculosis. Paradoxical as it seems, the symptoms are not referred to the kidney but to the bladder. Painful and frequent urination is invariable. Urinary tuberculosis, like pulmonary tuberculosis, is of varying degrees of virulence. In those individuals with a high physical resistance the bladder irritability may be not at all marked. In the more rapidly developing cases

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*Read before the Surgical Section, State Medical Society, Milwauke, Sept. 5, 1921.

where the patient's resistance is less, the bladder pathology is more extensive and the cystitis correspondingly more severe.

In virulent tuberculosis of the urinary tract the bladder irritability becomes distracting. A nycturia of five, ten or even twenty is not uncommon. Urination becomes very painful and finally there is constant bladder distress. The patient notices a heavy sediment in the urine; often that it is bloody. There is some evening fever and night sweats may be annoying. The appetite is lost and with it weight. Without interference this patient soon develops generalized tuberculosis and dies.

In contrast to this picture let me call to your notice the less active type of renal tuberculosis; the individual with sufficient physical resistance to retard to a degree the progress of his disease. Such an one continues for five or ten years with good weight and in apparent excellent health. He is merely annoyed with a mild, though constant bladder irritability requiring him to arise one or two times during the night. He may or may not be aware of a muddy urine. Once or twice throughout this period he may have noticed some blood in the urine, but passed it by as inconsequential. The time ultimately comes, however, when physical resistance fails and the disease becomes progressively worse.

A discussion of renal tuberculosis without a consideration of the urine would be impossible. Urologists still live in the hope that their brethren, the laboratory workers, will ultimately realize the relative uselessness of a laborious study of the type of crystals and epithelial cells in urinary sediment and devote more time and attention to the bacterial content of a fresh specimen of urine. In an intelligent investigation of a case of nephritis, casts as well as albumin should be given attention. In a similar way a careful study of sedimented urine for bacteria, as well as for pus and blood cells, is of prime importance in the investigation of every case in which disease of the urinary tract is suspected. (In this connection it must be remembered that only the last part of urine voided by the male and only urine catheterized from the female are at all suitable for such study.)

In renal tuberculosis the urine frequently presents a very characteristic picture. Blood is almost universally found in some amount. It varies from that of gross hematuria to the occurrence of only an occasional red cell. Pus is even a more constant finding. The amount of pus usually has some relation to the extent of renal pathology. In the earlier acute type of renal tuberculosis it occurs in moderate amounts, often only sufficient to render the urine visibly hazy. In the more chronic cases with nearly complete destruction of the kidney pus is seen in profuse amounts, the sediment at times constituting one fourth of the total volume.

The usual case of urinary tuberculosis is a pure infection. Secondary infection of a tuberculous kidney is the exception. Because of this fact a simple methylene-blue stain of the urinary sediment is of the highest value in the investigation of any case of so-called "cystitis." In those instances in which the "cystitis" is the result of some non-tuberculous infection of the kidney not only pus cells are seen in the methylene-blue stain but numerous cocci or bacilli are easily recognized as their cause. *When the "cystitis" is a tuberculous cystitis secondary to a renal tuberculosis it is the rule to find much pus in the methylene-blue stain without any cocci or bacilli to explain it.* When bacilli or cocci are seen in the methylene-blue stain that of course does not preclude the possibility of a tuberculous kidney because a secondary coccal or bacillary infection is at times superimposed upon a tuberculous infection. The demonstration of tubercle bacilli by the carbol-fuchsin stain is of course pathognomonic of urinary tuberculosis.

In reiteration it cannot be over-emphasized that, of all the symptoms referable to the urinary tract, there is none so alarming and so deserving of thorough investigation as that of hematuria. Neither can it be too strongly emphasized that "chronic cystitis" of any considerable severity and duration, when completely investigated, is always found to be merely a symptomatic manifestation of some more or less grave urological pathology. Chronic Cystitis as such and Essential Hematuria as such are rapidly becoming medical curiosities.

Anything like a comprehensive discussion of the various special methods of urological investigation would be entirely impossible in a paper of this length. It is hoped, however, that a cursory mention of the more practical of these methods might serve to recall to your notice the ease and relative certainty with which diseases peculiar to the urinary tract may be analyzed.

In those diseases of the urinary tract in which the pathology is primary within the kidney, simple observation of the interior of the bladder adds but little information to that otherwise obtained. Even though all of the various types of renal infection are followed by some degree of bladder pathology, the abnormalities actually seen within the bladder through the cystoscope are seldom sufficiently characteristic to be of definite diagnostic value.

The real advantage of cystoscopic investigation (so far as kidney lesions are concerned) lies in the ease with which the urines coming from either kidney can be obtained for separate study. With the ureteral catheters in place the individual functional ability of either kidney may also be estimated. Last, and by no means least, ureteral catheterization permits the injection within the cavity of the kidney of various solutions either for therapeutic or diagnostic purposes. By filling the renal pelvis with one of several special solutions which are opaque to the X-rays it is possible to obtain a Roentgenogram upon which a clearcut outline of the cavity of the kidney may be seen. In such a pyelogram certain characteristic changes can be easily recognized and often prove invaluable in diagnosis.

In urinary tuberculosis simple cystoscopic observation of the interior of the bladder usually offers no definite information. Whenever the disease has progressed sufficiently to cause the characteristic bladder irritability the interior of the bladder always appears abnormal. The mucous membrane shows any degree of inflammation from that of diffuse congestion to that of multiple areas of ulceration. At times the mucous membrane appears studded with milliary tubercles in a most characteristic manner. These bladder findings, though they may strongly indicate renal tuberculosis, still offer no usable information as to the location and extent of the renal pathology.

At times certain things are observed within the bladder which indicate definitely the kidney involved. In those individuals examined during an attack of hematuria, spurts of visibly bloody urine may be seen ejected from one or the other ureteral orifice. This of course points directly to that kidney as the source of the trouble. Again, the involved kidney may be recognized when the ureteral ridge is seen apparently on the stretch with consequent distortion of the bladder. Such retraction of the ureter is the result of cicatricial contraction and always indicates a very long-standing renal tuberculosis with extensive destruction of the kidney. In other occasional instances an advanced renal tuberculosis with total renal destruction can be recognized by the appearance of a moulded coil of thick pus rolling from the ureter of the involved side and coiling upon the bladder floor much like the coiling of tooth paste upon one's tooth brush.

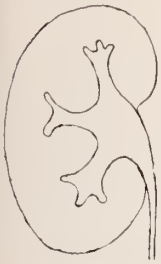
Even though such characteristic pictures are at times seen within the bladder, as a rule simple observation of the interior of the bladder is insufficient and further study must be made. It is usually possible to insert an ureteral catheter into each ureter and, through them, collect a separate specimen of urine from each kidney for special study. When but one kidney is involved (and by the way renal tuberculosis is essentially an unilateral disease); when but one kidney is involved the urine from the good kidney is found to be chemically and microscopically normal whereas that from the involved side is found laden with pus cells, usually blood cells, and frequently demonstrable tubercle bacilli. With such definite findings there seldom can be the slightest doubt as to the diagnosis and indications for treatment

Even though the cystoscopic observation of the bladder interior, together with a study of the divided urines, usually gives sufficient information to permit a final opinion of the case there are instances in which even further study is required. With the ureteral catheters in place it is a very simple thing to test the functional ability of each kidney. The method in general use is that of injecting intravenously one cubic centimeter of a standard solution of phenolsulphonephthalein. This dye is rapidly excreted by the kidneys. By virtue of its very high color in an alkaline urine the amount of dye occurring in the urine collected from each kidney can be estimated very accurately. A normal kidney is capable of excreting about thirty per cent of the injected dye within the first half hour. In a pathological kidney the amount of the dye excreted is decreased directly in proportion to the extent of kidney destruction. Because of its accuracy the divided phenolphthalein test permits not only location of the renal pathology and estimation of the degree of kidney damage on the involved side, but, what is often of greater importance, it also permits an estimate of the functional ability of the supposedly normal kidney.

In some cases of suspected renal tuberculosis,

especially when tubercle bacilli cannot be demonstrated in the urine, it becomes necessary to resort to pyelography for information permitting final diagnosis. With ureteral catheters in place it is possible to inject within the kidney pelvis a solution of Thorium Nitrate or some other drug which is opaque to the X-rays. With the renal pelvis filled with this opaque solution and an X-ray picture of the kidney permits a visual outline of the size and shape of its cavity.

The size, shape and outline of a normal kidney pelvis as demonstrated in a pyelogram has certain characteristic features which are constant with normal kidneys and yet are noticeably altered in certain diseases of the kidney, especially in tuberculosis, hydronephrosis, pyonephrosis, and tumor.



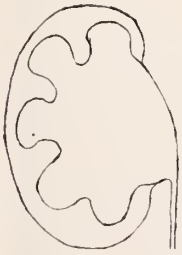
Drawing "A" is a schematic sketch made to illustrate the characteristic features of a normal pyelogram. Note, first, the small size and funnel shape of the true renal pelvis. Note, second, the breadth of the (usually) three major calices. Note, third, the well defined finger-like projections of the many minor calices.

Fig. No. 1.

Fig. No. 1 is a pyelogram of a normal kidney. Note the normal location of the kidney; the small funnel-shaped renal pelvis; the (two) normal major calices and the many finger-like projections of the minor calices.

Fig. No. 2.

Figure No. 2 is a double pyelogram of a young woman with perfectly normal kidneys. The left pyelogram is very typically normal. The right pyelogram varies slightly from the typical normal picture in that the pelvis has been slightly overdistended and also in that there is a suggestion of a double renal pelvis. Notwithstanding these slight variations, both renal pelves show the characteristic features of a normal kidney.



Hydronephrosis is a pathological balooning of the pelvis of the kidney. In diagram "B" we see a schematic sketch of the contour of a hydronephrotic renal pelvis. Fig. No. 3 is a pyelogram of an advanced hydronephrosis. From both of these figures it can be seen that in hydronephrosis the pyelogram shows an extreme increase in the size of the pelvis, definite broadening or clubbing of the major calices, and complete obliteration of the finer finger-like projections of the minor calices.

Fig. No. 3.

A glance at Fig. No. 4 will permit one to understand readily why such changes occur in the pyelogram. This is a photograph of a hydronephrotic kidney split open. Note the extreme increase in the pelvic capacity, the ballooning of the calices, and the relatively thin wall of parenchyma remaining.

In renal tuberculosis, though there may be and usually is an increase in the cavity of the kidney, this increase occurs in an entirely different manner than in hydronephrosis. As a matter of fact the true pelvis of a tuberculous kidney, like the ureter leading from it, usually lessened in caliber by cicatricial contraction of the products of long-standing inflammation i. e., scar tissue. The increase which does occur in the cavity of the kidney is the result of the formation of large tubercular abscesses in the kidney parenchyma. These rupture and drain, leaving a permanent connection with the cramped and distorted renal pelvis. This is all clearly exemplified in sketch "C."

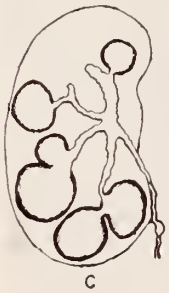


Fig. No. 4.

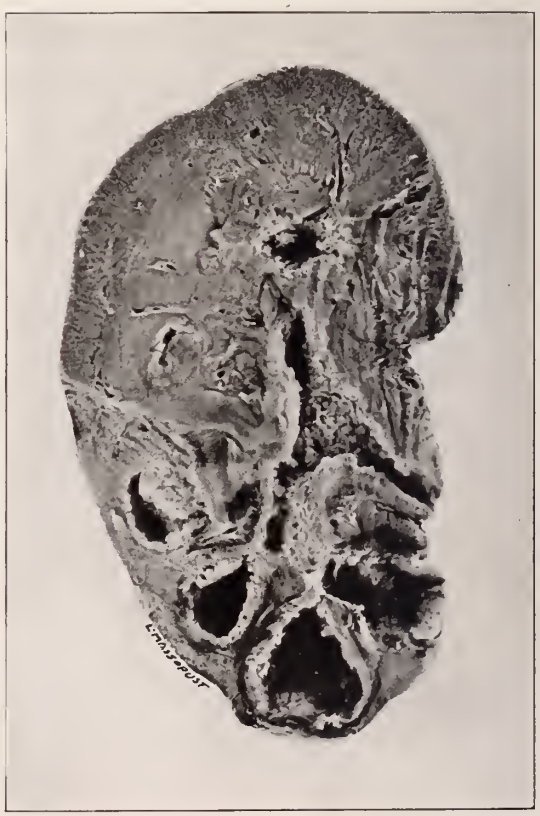


Fig. No. 5.

Fig. No. 5 is a photograph of one half of a split tuberculous kidney. This specimen shows clearly the contracted true renal pelvis with the numerous abscess cavities which have ruptured into this pelvis.

Fig. No. 6.

Fig. No. 6 is a pyelogram of a large tuberculous kidney. The true renal pelvis here is more nearly the normal size and shape (kept so by a single large pelvic stone). Note the large rounded abscess cavities connected by a thin fistulous tract with the renal pelvis. This finding is pathognomonic of tuberculosis.

Fig. No. 7 is also a pyelogram of a tuberculous kidney. Note the numerous abscess cavities. Also the absence of a true renal pelvis. This case is unusual in that the ureter is greatly dilated, the result of a tuberculous stricture at its extreme lower end with secondary distention above. The pyelogram in this case was extremely valuable because it clearly pointed out the indication for removal of the complete ureter with the kidney.

Fig. No. 7.

Fig. No. 8.

This last pyelogram is also a tuberculous kidney. It is in every respect typical. The renal pelvis is practically obliterated. The numerous abscess cavities are clearly apparent. The ureter appears as a thin knotted rope-like structure with the typical so-called "moth-eaten" margins—all evidences of the classical fibrous-tube ureter so frequently associated with long standing renal tuberculosis.

TREATMENT OF EMPYEMA.*

BY J. B. MAC LAREN, M. D.

APPLETON.

In the presentation of this paper on an age old subject, it is not my purpose to bring to you any new or novel facts nor any radical departure from established custom but rather to call attention to some of the salient points in the treatment of this condition as it stands today. We can honestly say, though operation and drainage of empyemas has been practiced since the time of the ancients, rib resection was only first employed for this purpose scarcely sixty years ago and even then the concept of intelligent rational treatment was not had until the great influenza epidemics of 1918 and 1919 with its concomitant broncho-pneumonia and pleural effusions. Until then medical attention had been directed to empyema purely from a mechanical standpoint. First, the routine treatment was aspiration done in such a way that air could not enter the pleural space. Then followed rib resection, the idea being to rid the pleural sac of its purulent material in as expeditious a fashion as possible without much regard to the patient or his condition. The chief concern was to evacuate the pus and to close the cavity which often resulted in the death or permanent crippling of the patient. In other words the treatment was of a cavity filled with pus; now it is the treatment of an infection and the cavity is left to take care of itself.

This condition has been brought about by the influenza epidemic of 1918 when it was found by the Empyema Commission,[1] appointed to investigate the high mortality from "Flu" in army camps that these were due to a disregard of the etiology and associated pathology of this condition; that in certain types of pleuretic effusion early operation was contra-indicated, in fact, where open drainage was instituted early, the mortality was high.

Graham and Bell[2] have shown that the mediastinum is a mobile thing and does not act as a rigid partition between the right and left chest and that marked displacement of one side affects the other side correspondingly. In other words the chest to all practical purposes is one cavity. In empyema following lobar pneumonia, the condition comes on late, usually ten days to three weeks from the onset of the disease. Resolution may be well under way with normal or subnormal temperature, slow pulse and all the indications of an uneventful recovery when chills, elevation of temperature and dyspnoea appear and physical examination reveals a chest filled with fluid. On exploratory puncture frank pus is found, sometimes so thick that it runs through the needle with difficulty. Contrast this with the picture seen in broncho-pneumonia, particularly the broncho-pneumonia we saw in "flu". From the beginning the patient is extremely ill and greatly prostrated. Pleuritic effusion appears on the second or third day completely filling one or both sides of the chest. Exploratory puncture demonstrates a hydrothorax, the fluid at first slightly bloody, becomes turbid and frank pus about three weeks later.

Autopsy or exploratory thoracotomy shows a marked difference in these two types of cases. In the lobar pneumonia empyema the pus is thick, yellowish green and contains strings of fibrin; the pleura, both viscaral and parietal, is thickened and shaggy, with adhesions between the two layers. The lung is only partly collapsed. There is also a tendency toward localization of the pus.

Almost the opposite is true in the broncho-pneumonia type. The pus is thin and fluid, grey or green and has no fibrin strings. The pleura is smooth and red but may be thickened. Adhesions are not common in the early stages but form later with the onset of frank pus. The lung is collapsed and the thoracic viscera displaced to the opposite side.

In the one, pus forms late without preceding serous exudation and is a true purulent pleurisy, preceded by abscesses, one or many, close to the pleural surface of the lung and associated with early fibrinous exudation which forms on the pleural surface as a definite sheet. As this pro-

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*Read before the Wisconsin Surgical Association, April 12, 1922.

cess progresses unrelieved the fibrinous layer becomes more and more organized; in old cases to a marked degree.

In the other the process is one of serous exudation into a cavity consequent to a virulent infection. This later becomes infected, becomes turbid from the inpouring of leucocytes and finally frank pus. The pleura indurates as it does around any infected focus.

In the pneumococcus type, the symptoms are partly from mechanical interference with respiration and partly absorption from the empyemic collection. In the streptococcus type the first symptoms are purely toxic from the infected lung or other focus and not from the pleuritic exudate. The exudate in this case serves as a hydraulic splint to the infected lung and though it may embarass respiration mechanically by crowding an already crippled respiratory system, its presence is not otherwise harmful until it becomes purulent. The sources of intoxication at this time is in the lungs and not in the pleura. The symptoms of pneumococcus empyema are those of confined pus plus a compressed lung; those of streptococcic empyema, general toxemia, a compressed lung and often a septicemia.

Colon bacillus, bacillus typhosus and other empyemas such as from putrefactive organisms follow the general condition found in pneumococcus empyema and hence have not been mentioned separately. There is in these, however, a separate focus of infection outside of the thorax, sometimes adjacent and at other times remote. The empyema is a metastatic thing. They follow the rules of treatment of metastatic abscesses elsewhere, namely free drainage.

Three things must be done before surgical treatment of empyema is begun:

1. Radiograph of chest;
2. Exploratory puncture;
3. A bacteriological examination of the fluid extracted.

When possible radiographs of the chest are extremely desirable. These should be steroscopic rather than the antero-position and lateral. When the patient is not too sick fluoroscopy of the chest is also essential in that the location of the collection can be marked directly on the skin. It is only by means of X-rays that encapsulated interlobar or super-diaphragmatic localized empyemas can be diagnosed. The frequency of encapsulated empyema is under-estimated and often overlooked since there may be several such pockets in a single chest and in as much as these may be the cause of chronic empyema, their discovery has a direct bearing on the prognosis of the case. Where physical examination fails to disclose these, and exploratory puncture does not reach them and still the patient does not respond to treatment, certainly Roentgenography is the only recourse.

Exploratory puncture of the chest is such a common procedure that it requires little comment. Rarely do we get a case of suspected empyema that one or more punctures have not been made, often without success, either from lack of technique on the part of the physician or inability to hit the cavity. Only recently I was called in consultation by an internist of good training in a case of suspected empyema in which he attempted to do an exploratory puncture with a 2″ small calibre needle going in about 3″ from the dorsal spine in the eighth interspace. He said he had been unable to get anything on two previous punctures. A puncture with a good sized needle in the seventh interspace in the posterior axillary line showed frank pus.

The value of thoracentesis in these cases preceding all other surgical treatment cannot be overestimated and in fact, it is now a fundamental and inflexible law that this must always precede any operative procedure regardless of the condition of the patient. In the presence of marked dyspnoea, cyanosis, extreme prostration, bulging of the interspace, etc., when there is no reasonable doubt of the pyothorax it should be done first anyway. Aside from its therapeutic value this will absolutely show the character of effusion and on it hangs the subsequent treatment. From the material obtained the type of infecting organism can be determined by the usual laboratory methods. It is true thoracic puncture may fail to disclose any fluid of any kind either because there is none there or the needle fails to reach its location, or it is too thick to traverse the needle. However, it can do no harm when done under surgical asepsis. In the absence of demonstrable fluid and negative X-rays but with symptoms so persistent of pus that they can not be conscientiously ignored further procedure in a surgical way should be considered.

Every case of hydrothorax is a potential empyema in that it merely requires infection to make it so. Whether there is a high temperature,

great prostration and the patient is moribund or not, thoracentesis with as complete aspiration of the fluid as possible is indicated first; this may be the factor which tides a desperate case over to the side of safety by removing pressure on an overburdened lung and heart and removing the source of septic absorption. This should be done whether the fluid is serous, sero-sanguinous or frank pus. If the fluid is serous as in the first stages of influenzal broncho-pneumonia this aspiration has to be repeated as often as the pleural space refills and continued until the fluid becomes distinctly pussy or the pneumonia improves. Usually following such procedure the patient rallies, the temperature recedes in such measure as the effusion is the cause of it, respiration improves in rate and freedom, the skin loses its dusky hue and the pulse becomes slower and improves in quality.

In the serous stage of the exudation, thoracotomy is contraindicated inasmuch as it allows the lung to collapse at a time when there is already too little breathing space. As the condition progresses and the effusion becomes purulent adhesions take place and the pleura becomes covered with a membrane which limits the degree of lung retraction.

Occasionally thoracic puncture with aspiration is all that is required to clear up the case but this is unusual.

When pus is found the chances that it will be absorbed or inspissate is very remote and if the patient's condition will permit, further delay of operation is unjustifiable.

Exploratory thoracotomy should be done, I believe, except in children, by rib resection always, in order to provide ample drainage. The patient should be placed in a prone position with the head turned toward the sound side in order to embarass respiration as little as possible. The ninth or tenth rib is resected for about 2 inches at the posterior axillary line and the incision carefully carried through the posterior periosteum to the pleural cavity. Care is taken at this time to prevent a rapid inrush of air by plugging the opening with two fingers or a piece of gauze. Two fingers are then passed into the cavity and the lung freed from the diaphragm below and adhesions broken down as far as the fingers can reach radially from the wound. With the patient prone and with some adhesions and thickening of the pleura the lung retracts but not to a marked degree when the rapid inrush of air is prevented.

The type of drainage apparatus instituted is largely a matter of individual preference and I do not believe is of much consequence just so long as drainage is free and unobstructed and free play of air in and out of the wound is prevented. The use of air tight partial vacuum apparatus I do not believe is of much value because there has been none contrived so far which stays tight and secondly it serves only to maintain a small negative pleural pressure which does little good and does not aspirate any more than any open tube would do.

Personally, I have used for several years a Wilson spool having a rubber drain tube through its lumen and extending into the chest cavity about 4" and connected at its other end to a drain tube the end of which is under some antiseptic solution in a bottle at the side of the bed.. The spool is maintained in position by two silk worm gut sutures which approximate the wound close to the spool and are tied through the outer flange. Copious dressing are placed outside of the spool and around the tube and held in place by adhesive straps. The inner tube may be removed at any time for cleansing or shortening. Drainage alone is all that is required in the majority of cases to clear up the empyema. The discharge which is frank pus at the time of operation changes in a few days to a much thinner fluid, becomes less turbid and smaller in quantity until it nearly ceases and becomes colorless in about six weeks. The next day after the operation, Dakinization may be begun for the purpose of sterilization of the cavity. This should be preceded by irrigation with normal salt solution until it returns clear, when Dakin solution is instilled, left about 20 minutes and allowed to run out. This is repeated every four hours. By this method the infection of the pleura is cleaned up and the fibrinous exudate removed so that the lung can expand. The instillation should be continued until the discharge becomes clear when culture and smear of it is made. If the bacterial count remains constant or increases over a period of two days after cessation of the Dakin-Carrel treatment, further search for pleura pockets should be made. If the discharge is sterile, the spool is removed and the wound allowed to heal.

The incidence of chronic empyema has decreased

as our knowledge of the acute condition has become better, particularly so since the advent of the Dakin treatment of wounds. When the discharge remains purulent, copious or the bacterial count shows more than one or two bacteria per several fields after a reasonable time and in spite of treatment further operative interference is indicated.

The sinus should be filled with Bismuth and olive oil and skiagraphed. If not large the injection of the cavity with Beck's paste every three or four days will usually heal it. If the cavity is large decortification of the lung followed by Dakin solution instillations to disinfect the cavity should be done.

Re-expansion of the lung is best accomplished by the use of Wolf bottles. The patient blows from one bottle over to another about two quarts of water every three hours. Resistence is built up by food, exercise and sunlight.

Chest collapsing operations for the cure of sinuses following empyema are unjustifiable and unsurgical except in rare instances. They are not only without exception followed by marked thoracic asymetry and deformity with its train of pathological compensations but the function of a large part of the affected lung is destroyed, a condition which is without hope of improvement throughout the rest of the life of the patient. All that can be said of it is that it obliterates a condition which in itself is only partly disabling, not dangerous to life and has hopes of remedy in other manners, by imposing a worse condition on the patient. In all of these operations as devised by Estlander, Schede or Delorme there is an attempt to mobilize the immobile, to bring the chest wall to fill a cavity which should be filled by the mobile lung tissue. At best the operations are bnt a hysterical attempt to obliterate a pneumothorax regardless of physical expense.

1. The Empyema Commission: Cases of Empyema at Camp Lee, Virginia. J. A. M. A. 71:336,443 (August 3, 1918).

2. Graham, E. A. and Bell, R. D.—Open Pneumothorax, Am. J. M. Sc., 156:839, December, 1918.

AGAINST MEASURING CHEST GIRTH AT REST.

The conclusion reached by Horace Gray, Boston (*Journal A. M. A.*, July 29, 1922), is that the chest girth should not be measured at rest, except as a necessity in children who do not breathe freely, as occurs not infrequently under six years of age. Measurements are better taken at both full inspiration and complete expiration, and the average used as the midway girth.

GOITER. REPORTS OF EXAMINATION OF 1425 STUDENTS.*

BY J. GURNEY TAYLOR,

MILWAUKEE.

Living in the so-called Goiter Belt and observing a large number of goiters in the incoming students at the Milwaukee Downer College and Seminary during the past few years, has led me to group our reports in this paper as roughly gleaned over a period of eight years. Fourteen hundred twenty-five cases represent but half of those which should have been included in this survey, but the remaining half of case records which were destroyed accidently would from one's impressions have been substantially the same.

Every student upon entering presented a complete history of previous physical condition with record of diseases contracted before entrance. This is brought by the student, having been submitted either by the parents or the family physician.

A complete physical examination is given by us and an accurate record has been kept of same.

The thyroid has been closely and uniformly studied by us in the course of these examinations but our nomenclature as applied has not been as satisfactory as desired.

We have classified them as follows: firstly, those glands with a general enlargement of the entire gland; secondly, in regard to the lobe involvement; thirdly, with the isthmus alone involved.

Persistent thyro-glossal tracts have only been sought for during part of our examination, and therefore, are not included in our figures. The importance of uniformity in classification will add greatly in increasing the value of the data regarding the location of the involvement. The classification such as presented by Marine and Kimball in their reports of surveys of goiter in school girls is an excellent one, divided as it is into normals, slight, moderate and marked enlargements, adenomas and persistent thyro-glossal tracts. Our figures as presented apply entirely to girls.

Simple goiter develops most frequently during the formative period, either during foetal life, puberty or during pregnancy. This fact has been clearly established. It has also been recognized

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*Read before the meeting of the State Medical Society of Wisconsin, Green Lake, Sept. 6, 1922, and American Climatoligal, Washington, D. C., May 6, 1922.

that there is a marked increase in frequency among females, it being six times more frequent than in males.

The recent report of the War Department[1] has emphasized the higher incidence of goiter in certain parts of the United States. It has been extremely interesting to follow their figures relative to the examination of a group of men of selective age and a sex relatively less affected. A total of over 20,000 cases of goiter were recorded, simple goiter 11,971, exophthalmic goiter 8,647, giving a rate of ¾ of 1 per cent of the population examined. It was furthermore shown that simple goiter was relatively more common than exophthalmic goiter but geographically was distributed over a smaller and well defined area. The extreme Northwest and the Great Lakes basin presented the largest number of cases of simple goiter. Idaho, Oregon, Washington, Montana, Utah and Wyoming led with the greatest number, 27 to 15 cases per 1,000 men examined. The second division about the Great Lakes, Wisconsin, Michigan, North Dakota, Minnesota, West Virginia, Illinois, Iowa, Indiana, and Ohio presented 5 to 15 cases per 1,000 men examined.

It is also interesting to view the figures presented regarding exophthalmic goiter. Washington state has a ratio of 9.42 per 1,000 men (nearly 1 per cent of the men examined), Wisconsin 7.94, Michigan 6.79, Oregon 6.37, Illinois 5.57, Ohio 5.08, and Pennsylvania 4.81. The least amount of exophthalmic goiter was found in the Gulf States.

Simple goiter was almost absent through the southern states from Virginia to Colorado. In the government report this clear cut distribution of goiter in the Northwest and Great Lakes basin is commented upon from the standpoint of the character of water supply, the mountain water, which is soft, in the former areas, and the hard waters of the Niagara limestone in the latter. However, the reports further draw the deduction that the presence of lime in the water or the mountain origin of drinking water are not to be considered as definite and sufficient causes of goiter.

In the recent analysis, goiter was found to be in higher percentage among the Scandinavians and Finns than among other races, but again a large percent of these men came from the Goiter Belt of Northern Michigan.

Levin[2] reported 30 per cent of thyroid enlargement in 583 soldiers examined who came from the Great Lakes basin.

Blankenship[3] reports on the goiter findings in 13,796 students entering the University of Wisconsin in a period of several years. Thyroid enlargement was found in 3,784 cases or 28 per cent and exophthalmic goiter in .6 per cent or 93 cases. Of the number examined, there were only 20 per cent from the neighboring states, 70 per cent from Wisconsin and the remaining from other districts. He classified the age and sex incidence as follows:

Male: Simple unclassified enlargement 21.9%; exophthalmic .29%.

Female: Simple unclassified enlargement 41%; exophthalmic 1.2%.

Average combined age 19.9 years.

Male, (130) .....19.1 years
Female, (170) .....20.4 years

He has called attention to the interesting fact that the mortality statistics show for the five years given an average death rate in Wisconsin from goiter as 2.4 per 100,000 against that for the entire United States over a like period of time as 1.6 per cent per 100,000.

He furthermore emphasized in a study of 300 cases of simple goiter selected from the student examination that 95.6 per cent of these cases presented some abnormality of the upper respiratory tract or the teeth, which might affect the metabolic function of the gland.

We are indebted to Marine and Kimball[4] for extensive surveys among the public school girls of Akron and Cleveland. I have selected a table giving the percentage of the thyroid involvement simply as a matter of comparison of those in the age group which I have submitted.

Age	10-12		12-14		14-16		16-18		18-20	
	No. of Cases	%	No. of Cases	%	No. of Cases	%	No. of Cases	%	No. of Cases	%
Normal	530	65.08	521	41.32	460	40.35	156	34.44	21	28.77
Slightly enlarged	394	41.69	680	53.92	578	50.70	235	51.88	44	60.27
Moderately enlarged	21	2.22	59	4.68	98	8.6	60	13.24	8	10.96
Markedly enlarged			1	0.08	4	0.35	2	0.44		

D. C. Hall[5] reports 2,086 men at an average age of 20 years, 5 months, and 1,253 women with the average of 19 years, 3 months. In the men, 374 or 17.93 per cent of enlarged thyroid were present. Of these 272 or 13.03 per cent were classified as perceptible, 92 or 4.43 per cent medium and 10 or .48 per cent were classified as large.

In the women, 294 were classed as perceptible or 23.45 per cent, 85 as medium or 6.79 per cent, 9 as large or .7 per cent, a total of 30.94 per cent. His age group of women was above that submitted in my figures but it at least demonstrates the prevalence of goiter in the Northwest district.

AUTHOR'S TABLE.

Age	No. of Cases	Tremor & Trachy-card	Exoph.	Ton-sils	Blood Pressure With Enlarg.	Blood Pressure Without Enlarg.
12	10	0	0	2	106-66	117-76
14	32	1	0	4	126-71	116-72
15	57	6	0	6	117-77	114-82
16	92	5	0	11	118-76	118-74
17	242	23	0	30	115-70	113-75
18	473	39	2	78	118.75	128-70
19	297	20	1	40	117-76	118-77
20	144	24	0	20	117-79	119-74
21	57	5	1	5	118-80	116-80
22	21	0	0	3	115-80	125-77
Total	1425	123	4	199		
%		27	0.8	14		

Age	Number of Cases	Normal	Right Lobe	Left Lobe	Isth.	Gen.
13	10	7	0	0	2	1
14	32	24	0	0	3	5
15	57	35	1	0	8	13
16	92	65	1	0	15	11
17	242	182	5	1	33	30
18	473	314	11	7	90	53
19	297	202	8	3	48	36
20	144	85	7	2	27	25
21	57	38	2	0	10	7
22	21	16	0	0	4	1
Total	1425	968	35	13	240	182
%		67.93	7.7	2.8	52	40

Age	Total Normal	% Normal	Total Goiters	% Goiters
13	7	.49	3	.21
14	24	1.68	8	.56
15	35	2.45	22	1.54
16	65	4.56	27	1.98
17	182	12.70	60	4.2
18	314	22.0	159	11.09
19	202	14.28	95	6.64
20	85	5.95	59	4.16
21	38	2.63	19	1.34
22	16	1.19	5	.35
Total	968	67.93	457	32.07

State	Number Students	Number With Thyroid Enlargement	%
Wisconsin	783	290	37
Missouri	11	4	36
Michigan	72	25	34
Minnesota	58	19	32
Indiana	33	10	30
Illinois	195	62	30
Iowa	67	18	27
Arizona	8	2	25
Nebraska	12	3	25
Ohio	18	4	22
South Dakota	43	9	20
North Dakota	35	6	17
Tennessee	8	1	12
Mississippi	10	1	10
Montana	10	1	10
Pennsylvania	12	1	8
Colorado	14	1	7
Kentucky	3	0	0
Texas	4	0	0
Kansas	9	0	0
New Hampshire	4	0	0
Alabama	9	0	0
Massachusetts	3	0	0
New Mexico	4	0	0

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ANESTHETIC PROPERTIES OF PURE ETHER.

Pure ether, according to Raymond L. Stehle and Wesley Bourne, Montreal (*Journal A. M. A.*, July 29, 1922), made by a clean-cut chemical reaction which excludes almost completely any contamination with substances which have been claimed to be the real anesthetic agents of ordinary ether, possesses to the highest degree the anesthetic properties which have usually been attributed to it.

THE X-RAY AND CLINICAL FINDINGS IN THE NORMAL CHEST OF THE CHILD.

REPORT OF THE X-RAY DIVISION OF THE COMMITTEE ON MEDICAL RESEARCH OF THE NATIONAL TUBERCULOSIS ASSOCIATION.

It is generally conceded that one of the most important factors in accurate interpretation of the appearance of morbid processes in the roentgenogram of the thorax is a thorough familiarity with the normal and variations therefrom within normal limits. With a full realization of this in view the National Tuberculosis Association in 1920 appointed a committee comprising three roentgenologists and three internists to make a study of the normal chest of the child between the ages of six and ten years. This group was instructed to work in cooperation and to make a report of their investigations before the Association when their studies were completed and their conclusions reached. The members selected for the committee were Dr. H. Kennon Dunham of Cincinnati, Dr. Frederick H. Baetjer of Baltimore and Dr. Henry K. Pancoast of Philadelphia to act in the capacity of roentgenologists and to work in cooperation with the respective internists in the same cities, Dr. Kenneth Blackfan, Dr. Charles R. Austrian and Dr. H. R. M. Landis. Each group of two was to work independently until a satisfactory number of individuals were examined and the entire committee was then to meet and draw their conclusions for presentation. It was to be the duty of the internist in each group by careful clinical study to select as nearly normal children as possible for examination by the roentgenologist. The entire procedure was to be carried out with strict cooperation between the two members of each group.

It was soon realized by the X-ray members of the group that an attempt to describe a normal chest was practically impossible. Their endeavors soon began to center around the description of a theoretical normal with wide variations that would serve as a basis for the interpretation of abnormal appearances and tend to preclude the possibility of erroneous diagnosis being based upon faulty interpretations of hilum shadows, trunk shadows and linear markings more or less altered in appearance by the frequent respiratory infections of children. They realized that herein had existed the greatest source of error in interpretation, and no doubt the Association had this same thought in mind when the committee was appointed to take up these investigations. Errors in interpretation have been made chiefly in connection with the diagnosis of pulmonary tuberculosis.

It was the concensus of opinion that children are probably more apt to show definite X-ray evidences in the hilum and trunk shadows of simple as well as serious respiratory infections than adults. Practically all children of the ages of those examined have had at one time or another one or more respiratory infections, especially measles and whooping cough, that are likely to produce very apparent changes in the shadows mentioned and which will remain distinctly visible for a variable period of time. These apparent deviations from the normal are not necessarily abnormal when observed, but may be the harmless results of one or more infections. No doubt such appearances have many times been misinterpreted as evidences of tuberculosis. In the conclusions reached by the committee the attempt has been made to preclude this possibility.

Many of the general observations made have not been included in the conclusions. One of those perhaps worth mentioning is the fact that the heart of the child is found to extend relatively further to the right than in the adult.

The thoroughness with which the studies were carried out may be in part realized from the number of individuals examined. Over five hundred children were selected from all strata of life, as stated in the clinical report of the committee.

The groups comprising the committee met at the Phipps Institute, Philadelphia, March 3, 1922. Prior to this meeting there were misgivings as to the possibility of an agreement upon any very definite conclusions, but much to the satisfaction of all the members a definite agreement was reached and the conclusions were completed after a few hours careful deliberation.

To assist in a better understanding of the conclusions of the committee, a composite diagramatic reproduction of several roentgenograms was made. It must be remembered that the three zones like the chest have thickness as well as length and breadth. Thus the zones extend anteriorly and posteriorly from the lung root as well as laterally.

CONCLUSIONS OF THE X-RAY DIVISION OF THE COMMITTEE.

The Normal Chest. The normal chest of the child from the roentgenologic standpoint is subject to such wide variations within normal limits as to be beyond the possibility of exact description.

Hilum Shadow. The conglomerate shadow commonly called the hilum shadow, when found lying entirely within the inner third or zone of the lung area can be disregarded, (or regarded as normal) except where it is made up of a solid mass of homogeneous shadow giving undoubted evidence that it represents a growth or mediastinal pleurisy.

Calcified Nodes. Calcified nodes at the root of the lung, without evidence of lung disease, are of no significance except as a possible evidence of some healed inflammatory condition, possibly but not necessarily tuberculous. They are a common finding in normal chests.

Density and Thickness of Trunk Shadows. In the normal lung the bronchial trunk shadows are not visible in the extreme apical regions. For convenience of description the remainder of the lung is divided into three vertical zones, extending outward from the lateral border of the spinal shadow to the lateral chest border.

The mid zone contains the trunk shadows, gradually fading out into their final subdivisions.

The peripheral zone contains radiating lines from these and fading off before the periphery is reached.

Where in the mid zone or peripheral zone, these shadows do not disappear in the characteristic fashion described, the appearance may be evidence of a variety of conditions, past or present, of an inflammatory nature or otherwise. It may accompany a tuberculous process but is not necessarily indicative of tuberculosis.

Improper or Misleading Terms. The use of the terms "peribronchial tuberculosis" and "parenchyma tuberculosis" is not to be recommended in the interpretation of roentgenograms of the chest. Until corroborated by laboratory or clinical findings, the use of the terms "active" and "quiescent" should not be definitely applied to evident lesions demonstrated on plates.

(Signed) Henry K. Pancoast,
Kennon Dunham,
F. H. Baetjer.

PRESENT STATUS OF TREATMENT OF TUBERCULOSIS.

One of the most potent factors in retarding progress in the treatment of tuberculosis, F. M. Pottenger, Bonrovia, Calif. (*Journal A. M. A.*, Aug. 26, 1922), says, is the pessimistic psychology which has surrounded this disease from time immemorial, and which, in spite of the great progress recently made, still holds sway in the minds of both medical men and laymen. Regardless of our lack of a specific remedy for its treatment, if the measures which have been gradually evolved during the last half century are applied when the disease is early, and continued for a sufficiently long time, with the hearty cooperation of the patient, nearly all patients with tuberculosis can be restored to health. This optimistic statement presumes that: (1) Present measures used in treatment are sufficient to cause tuberculosis to heal. (2) These measures must be applied early. (3) The treatment must be carried on for a sufficient time. (4) The patient must give a whole-hearted cooperation. This paper consists of a discussion and elaboration of these four points.

INTRAVESICAL MANAGEMENT OF OBSTRUCTIONS IN URETER.

Many cases of obscure intra-abdominal pain, H. W. E. Walther, New Orleans (*Journal A. M. A.*, Aug. 26, 1922) asserts are due to obstructions in the ureter. Cystoscopy and ureteral sounding should be employed in all cases in which the symptoms of abdominal distress cannot be traced to some definite surgical condition distinct from the urinary tract. Stone and stricture are the two principal factors in the causation of ureteral obstruction. Approximately 90 per cent of ureteral stones can be removed by nonoperative means. Transurethral instrumental ureteral dilation is rational, is safe in the hands of the experienced, and is efficient in its results. Ureteral stricture is a definite clinical entity and merits more careful consideration, especially in dealing with abdominal pain in women. Thorough dilation produces definite and apparently lasting benefit.

SUGGESTED CLASSIFICATION FOR ANORECTAL PROLAPSE.

Collier F. Martin, Philadelphia (*Journal A. M. A.*, Aug. 26, 1922), contends that the terms first, second and third degrees of procidentia should not be employed, but that the condition should be described according to the anatomic tissue displaced. If the student is made to understand that the displacement is either of the anal skin or of rectal mucosa, or of all of the bowel walls of the rectum or colon, or of all combined, he certainly has a clearer conception than would be obtained by any other classification. Instead of the term third degree procidentia, he suggests the term pelvic procedentia, as the pelvic colon is certainly the portion of the bowel displaced. Should this pelvic procidentia increase to such a size that it appears externally, and with it drags the rectum itself, then the term pelvirectal procidentia, or rectopelvic procidentia, would be logical.

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EDITORIALS

1922 MEETING.

WHILE the 1922 Meeting held at Green Lake was disappointing in point of attendance it was from a scientific standpoint unquestionably the most successful meeting of the Society held in recent years, and every member in attendance left for home feeling he had been more than repaid for his time and expense.

The transactions of the House of Delegates were of special interest and importance. It gave most painstaking attention and careful study to the activities of the Organization and to ways and means of improving the service of the Society to its members and the public. In order to provide means for increasing and rendering better service, and for a proper participation in legislative matters during the coming year, the House unanimously voted to raise the dues of each member five dollars per year for 1923. This will provide a sum which will allow the employment of a fulltime secretary-editor, and at the same time defray the expenses of a representative of the medical profession in Madison during the Legislative Session. These matters will be taken up more in detail in the next issue of the Journal.

Milwaukee was selected as the place of meeting in 1923 and the following officers were elected for the ensuing year.

PRESIDENT.

F. Gregory Connell ..... Oshkosh, Wis.

VICE PRESIDENTS.

1st, A. J. Wiesender ..... Berlin, Wis.
2nd, J. L. Yates ..... Milwaukee, Wis.
3rd, E. E. Tupper ..... Eau Claire, Wis.

COUNCILORS.

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12th District, Hoyt E. Dearholt .. Milwaukee, Wis.

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Rock Sleyster ..... Wauwatosa, Wis.
Horace M. Brown ..... Milwaukee, Wis.

ALTERNATES TO THE A. M. A.

W. E. Bannon ..... La Crosse, Wis.
F. Gregory Connell ..... Oshkosh, Wis.

CANDIDATES FOR THE LEGISLATURE.

THE NEXT session of the Legislature convenes in January. The action of the House of Delegates in raising the dues five dollars will provide a sum which will allow of an active participation by the Society in protecting the interests of the physicians of the state; and legislation pertaining to public health and proper regulation of the various cults attempting to practice medicine under the guise of "new schools."

A new Medical Practice Act will be introduced which must be properly supported. Bills will doubtless be introduced which must be defeated. The

cults are again seeking recognition and will spend lavishly to obtain it. While our Legislative Committee will be enabled to render a service more efficient than in the past years, because they have lacked funds, they will be helpless without the support of each County Medical Society and every member of the Organization.

What are you doing in your county to forstall undesirable legislation? We are urging that the officers of every county society immediately take such steps as will enable them and their members to interview candidates, determine where such candidates stand and then support those who will go on record as favoring legislation that is for the public good, and defeat those who will not.

It is up to each member of this Society to vigorously work for the election of men who are pledged in these matters, and to oppose undesirable candidates. After your man has been elected, keep in touch with him and see that he remains fully informed in regard to the situations that arise.

Activities of this character on the part of the profession are imperative; the responsibility rests on the shoulders of each and every County Medical Society. The time is short. Get busy in your county NOW.

CANCER WEEK.

THE WEEK of November 12th to 18th has been selected this year for Cancer Week. The purpose of Cancer Week is to bring before the public the facts and lessons of cancer.

So far as the facts concerning cancer as a killing disease are concerned, these are indeed formidable enough to warrant that cancer be singled out for special attention. As a killing disease, cancer has grown within the past years and now occupies fourth position as a destroyer of man. According to the latest statistics available from the Bureau of the Census, the increased mortality from cancer has not yet been checked. It is true that these same statistics show that there is an apparent lessening in the number of deaths from cancer in the lesser age periods as compared with other years. Whether this is in response to the educational effort that has been put forth, or whether it is merely coincidence, or whether it is that more people live to an older age, where cancer naturally becomes more frequent, is somewhat difficult to say.

There can be no question, however, that until we have found out more about the bio-chemistry that is concerned in life and the maintenance of health, or until fuller knowledge is acquired with regard to the etiology of cancer, the best chance that we have in reducing the mortality from this disease lies in educating the public to the importance of the early recognition and the early removal of cancer. It is safe to say that if cancer could be brought under competent care while in its incipiency, a large proportion of these cancer cases could be cured.

Obviously, an educational campaign in this matter, as in any other matter, cannot hope for success if it remains a sporadic effort only. The campaign against cancer will be successful only if it will be continued throughout the year. The medical profession, as a group that is best informed with regard to the matter of cancer, has indeed a grave responsibility in bringing this information to the public. It is time that the profession change its attitude from curative medicine to preventive medicine. Cancer, among other disease conditions, is one in which the teachings of prevention, can prevent. Let every physician, therefore, recognize his responsibility in this problem and do his share in bringing before the public a better understanding of the cancer problem, and the hopeful message that in the early recognition and in the early removal of cancer lies the hope of a lessened mortality from this disease.

ALEXANDER RIGHTER CRAIG.

DR. Alexander Righter Craig, Secretary of the American Medical Association, died on September 2, 1922. He was known to many members of the profession in this State not only officially, but personally and it was a warm place he held in their hearts.

The following editorial from the Journal of the A. M. A. is an excellent exposition of his work, associations and personal admirable qualities.

"The sudden passing of Dr. Craig is a shock that makes it difficult of realization. On August 25 he left for his annual vacation, and was spending it with his family in rural Maryland. For some weeks he had not been feeling altogether well, although he treated the matter lightly, and jokingly rejected the suggestion that it was time for him to take his vacation. Finally he got away and then, out of a clear sky, came the telegram telling

of his death. The rank and file of the profession probably will never know the loss which it sustains in Dr. Craig's going. It is doubtful whether the impress he has left on the American Medical Association ever will be fully realized, except by the few who have been intimately associated with him. He was so unassuming, so modest, so free from any arrogant or dictatorial spirit, that his far-reaching influence made itself known rather by results rather than by his efforts to bring about those results. Especially valuable were his counsel and advice in the various difficult problems that would come up in matters affecting the organization. To a degree far beyond the average man he was able to see the point of view of the other fellow and, by virtue of his desire to do to others as he would be done by, frequently brought harmony out of what bade fair to be discord. He not only filled the position of Secretary of the Association, but also was the secretary and executive officer of the Council on Scientific Assembly and of the Judicial Council. In the latter position particularly his exceptional tact showed itself. By his associates at the headquarters office, Dr. Craig was loved for his gentleness and unfailing courtesy. In all the years that he was with the Association, he was never known to make an unkind criticism of those with whom he was thrown in daily contact—subordinate or equal. Criticize, he could and would, when in his opinion principles were at stake, but always in a spirit of helpfulness and service. A rare type of man he was; a re-creation of the spirit of service; a giver of himself; a man whose life was a mission; 'we shall not soon see his like again.' "

AS OTHERS SEE US

Editorials from the Lay Press.

IF THE MEDICAL PROFFESSION ONCE APPLIES ITSELF TO EXTENDING HUMAN LIFE.

The physician of the future will become less and less a disease specialist and more and more a health specialist. He will be a health organizer. His business will consist not so much of treating the sick as of keeping people well. He will doubtless be as interested in research as he is today; but his research will not be limited to the discovery of some new disease or to a treatment of the old ones. He will be interested even more in the discovery of new ways to let man's will to live assert itself.

How long should a man be able to live? There is no telling. Man may live just as long as he can keep renewing the healthy tissues of his body, so long as he can successfully expel all the toxins, avoid disease and injury and replace promptly the wasted substances of each wornout cell. Setting any particular limit, in our present state of ignorance, seems to me quite unscientific.

If the medical profession once applies itself to the task of extending human life, there is no reason to doubt that its achievement will startle the world. —New York World.

THE COUNTRY DOCTOR.

A country doctor who has reached his alloted three score years and ten, but is still active in general practice, said the other evening: "When I can no longer respond to the call of my friend in need, then I will take in my shingle." Day and night, in fair weather and foul, this grand old man goes upon his errands of mercy.

Those who have read Whittier's "Snow Bound," remember the attractive picture of the country doctor on his rounds, faithful at the call of duty, and by his sympathetic readiness to serve, endearing himself to the whole community.

The tendency of young doctors today is to locate in the cities because they believe the up-to-date physician must keep in contact with his colleagues, with technical facilities and sources of professional information.

The rural districts must compete with the city to bring the doctors back to country practice by developing hospitals, laboratories and public health organizations.

Still, there are country doctors, general practitioners grown gray in the service of humanity, who would not change places with any city specialist, because of the personal satisfaction they have found in winning year after year the regard, and even the strong affection of an entire rural neighborhood.—West Allis Star.

DRIFT TO SOCIALISM.

Now that the Sheppard-Towner maternity—so-called—bill is a law by virtue of the President's signature, the American people would do well to

ask themselves whether the swing to socialism has not gone quite far enough, and whether it should not be stopped. The bill in question is thoroughly bad. But it is now a law, so there is no call for a further discussion of it. Its effects, or non-effects, will be carefully watched. There will be great pressure on the legislatures of the states to appropriate large sums of money in order that they may get some of the money to be appropriated by the federal government. Such a partnership is dangerous, and fraught with great possibilities of evil.

But the broader question is whether our people are to take care of themselves or be taken care of by the government; whether they are to manage their own affairs, or permit the government to do so; whether they are to be the independent, individualistic, resourceful people they used to be, or mere wards of the central authority. The issues are weighty, involving as they do both the character of our government and institutions, and of our people. Every scheme of governmental aid ought to be viewed with grave suspicion, for all such schemes involve fundamental political principles.

So it is suggested that the American people should, if they would preserve their liberties, look to themselves and their government, and resolve that they will not tolerate in the future any policy that is inconsistent with the spirit of American institutions, or with the principles on which they rest. The tendency toward socialism is strong and the appeal of socialism is evidently most alluring to many of our people. This is shown by the character of our tax legislation, tariff policies, and class legislation of various sorts. There is no danger to be apprehended from Socialists as such, but there is real peril in socialism, which is making great strides though it is not by many understood to be socialism.—Indianapolis News, Nov. 24, 1921.

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A CASE OF ANEURISM OF THE AORTA WITH UNUSUAL PRESSURE SIGNS.*

BY WM. S. MIDDLETON, M. D.,
MADISON.

The following case is presented to emphasize two unusual signs in aortic aneurism dependent on pressure on great vessels.

Case—O. R. Age 33. Male, married, white farmer. Admitted to the Bradley Memorial Hospital, December 19, 1921.

C. C.—"Pain in chest and cough."

H. P. I.—Patient dates the onset of chest pains back about two years. At the onset these pains were not constant and partook of a dull aching character. As a rule they were localized to the lower left chest posteriorly; but at times there has been radiation into the opposite side and into the left arm. Later these pains grew boring in type; their intermittency was more irregular; and their severity, greater. No diurnal nor noeturnal variation in tensity or incidence of these attacks has been remarked. A loose cough productive of mucoo pus has gradually become manifest. This cough is unattended by discomfort or hemoptysis. There have been no night sweats, chills, fever, anorexia or noteworthy weakness. Dyspnoea is only appreciable after considerable exertion.

There are no symptoms referable to the genito-urinary, gastro-intestinal or nervous systems.

Muscae volitantes at times.

P. M. H.—Specific urethritis at 18. Denies lues. Otherwise irrelevant.

S. H.—Farmer. Always engaged in laborious occupation. Always resident of Wisconsin. Married seven (7) years ago. (Six children.) Habits—regular. Alcohol and tobacco in moderate amounts throughout adult life.

F. H.—Without bearing on present condition (except that during hospital stay twin children, 2 months old, died of undetermined causes).

Physical examination:

Rather emaciated white male—apparent age 42 years. Lies on right side. Responds normally to questions.

Head—Expression of face, stolid. No abnormality in size, shape or contour.

Eyes—Lids and palpebral fissures, normal. Conjunctivae, slighty injected. Sclerae, muddy. Pupils, round, regular and equal. They respond poorly to light and slowly to distance.

Ears—Normal externally. Moderate amount of ecru-

*From the Bradley Memorial Hospital, University of Wisconsin.

mer in canals. Drum heads, normal. Hearing, acute.

Nose—No external deformity. Septum deviated to right but intact.

Mouth—Teeth, poor; pharynx, injected. Laryngeal examination shows left vocal cord nearer the midline than right and less active in abduction.

Neck—Marked reduction in the pulsations of the left carotid and subclavian arteries. No abnormal pulsations, thrills or masses. No tracheal tug.

Chest—No abnormality in contour. Slight restriction of respiratory excursion at left base. Tactile fremitus, distinctly increased in left infrascapular space. Percussion note is markedly impaired in left infrascapular region; and over this area are elicted bronchovesicular breath sounds and increased vocal resonance.

Heart—Apical impulse is centered in 5th interspace, midclavicular line. Cardiac dullness is enlarged 1 cm. to the left. No adventitious sounds nor arrhythmia determined over precordium. However on expiration, just below and mesial to the spine of the left scapula is a distinct, continuous bruit.

Abdomen—No abnormal resistance, masses or organic enlargements.

Genitalia—No scars found.

Extremities—Left hand and arm cooler than right. Delayed pulse in left radial artery—much smaller in volume than right.

	Arterial pressure—S.	D—Venous pressure
Right	104 (mm. Hg.) 70 (mm. Hg.)	9 (cm. H_2O)
Left	88 (mm. Hg.) ?	17 (cm. H_2O)

No abnormal neurologic findings other than noted under eyes and throat.

A diagnosis of aneurism of the transverse and descending arch of the aorta with involvement of the left common carotid and subclavian arteries and pressure on branches of the pulmonary artery to the left lower lobe and on the left subclavian vein, was made.

The blood Wassermann reaction was three plus positive.

The roentgenologic examination follows:

I—On fluoroscopy—

An ovoid pulsating tumor about the size of an orange was determined at the beginning of the descending portion of the arch of the aorta, tapering slightly anteriorly to involve the last portion of the transverse arch.

II—On stereoscopic roentgenograms—

The extent of the aneurysmal dilatation of the aorta was seen to be definitely greater. From the saccular tumor determined on fluoroscopy, a fusiform dilatation of thoracic aorta was observed to extend throughout its course to the diaphragm.

A moderate increase in density definitely demarked the entire left lower lobe.

The roentgenologic studies therefore confirm the gross physical diagnosis. Involvement of or pressure on the left common carotid and subclavian arteries is perfectly obvious by reason of the arterial blood pressure and pulse discrepancies. The elevations of venous pressure in the left arm can only be explained through an unilateral obstruction to venous return. This obstruction must be operative on the great veins before the union of the jugulars with the subclavian to form the innominate vein. Otherwise, the elevation in venous pressure would be manifest by venous engorgement on the left side of the neck and head. In the absence of such unilateral turgescence in the face and neck, the conclusion that pressure is exerted on the left subclavian vein separately would seem justifiable.

The inference of an obstruction to the pulmonary arterial supply of the left lower lobe demands detailed consideration. The physical findings in the left lower lobe, decreased respiratory excursion, increased fremitus, impaired resonance, increased vocal resonance and broncho vesicular breath sounds, indicate a lesion inducing decreased air content and improved sound conduction. At once, consolidation and infiltration suggest themselves; but, against such explanations are arrayed the roentgenologic findings and the clinical course. Yates[1] in studies on the effect of ligation of the various pulmonary vessels, determined that ligation of the pulmonary artery was succeeded by atrophy of that portion of the lung, to which the ligated artery was distributed. In this event the media of conduction are decreased without interference with the communicating air passages, as occurs when atelectasis results from bronchial obstruction. While the conditions of the experiment are not precisely duplicated under the present clinical circumstances, yet it would seem probable that a comparable condition of pulmonary arterial obstruction is existent in this case, explaining the unusual signs in the left lower lobe.

In conclusion attention is directed to the importance of comparative venous and arterial blood pressure readings in the anatomic diagnosis of mediastinal lesions. Obviously a knowledge of anatomic relations is essential to an appreciation of all signs arising from aneurysmal pressure.

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[1]Yates, J. L., Wounds of the Thorax. The Oxford Surgery, 1921.

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OUR JOURNAL

INFECTIOUS MONONUCLEOSIS — A CASE REPORT.*

BY H. M. COON, M. D., and ETHEL THEWLIS.

MADISON.

In 1921, Sprunt and Evans[1] called attention to a lymphocystosis in adults, which, while similar to the simple lymphocytosis occurring in children in so far as the symptoms, short course and ready recovery, differed in that the blood picture showed an increase in abnormal cells of the lymphocytic series suggesting an acute lymphatic leukemia. They suggested Infectious Mononucleosis as a suitable designation for the syndrome consisting of lymphadenopathy, a moderate increase in temperature and a marked increase in the lymphocytic count, the lymphoblast being the predominating abnormal cell.

The following year Bloedorn and Houghton[2] reported a series of cases similar in nature, in which three of the four cases showed the organisms of Vincent's Angina in the throat smears. Because of the predominance in the blood picture of the lymphoblast, they suggested the name of Acute Benign Lymphoblastosis for the condition.

Within the past two years, two cases have been studied in the University of Wisconsin Infirmary by Dr. Zellmer of the Department of Bacteriology whose report[3] will be published in the near future. He isolated a diphtheroid organism from both the tonsil and the lymph node, and fulfilled Koch's postulates with this organism, recovering it in pure culture from the involved lymph nodes of the guinea pig, after producing the condition in the experimental animals. Zellmer further differentiated the organism by cultural reaction from Dr. Bunting's diphtheroid of Hodgkins Disease.

[1]Sprunt & Evans, Bulletin of the Johns Hopkins Hospital, Vol. XXXI, No. 357, Nov., 1920, p. 410.

[2]Bloedorn and Houghton—Archives of Internal Medicine, Vol. 27, No. 3, March, 1922, p. 315.

[3]Zellmer, C. E.—Experimental Study of Infectious Mononucleosis, unpublished.

Case—S. L.—a white male student, 21 years of age, was admitted to the Infirmary 7-27-22 with the chief complaint of "sore throat" and the following history: On the preceding day he had noticed a slight difficulty in swallowing, although the throat was not actually sore. At the same time he noticed that his neck was swollen on both sides at and below the angle of the jaw. This swelling was not painful, however. No other symptoms complained of.

The past medical history was negative. No history of sore throat or tonsillitis. Later questioning brought out the fact that as a child there had been some swelling of the nodes of the neck.

Physical examination:

On admission temperature 98°, pulse 88, respiration 20.

Patient is a young, well developed adult male, does not appear ill.

Eyes, ears and nose—negative.

Mouth—tongue shows slight furring. Pharynx is red. Tonsils are markedly hypertrophied and appear beefy, with a few small flecks of exudate on the surface. Right tonsil shows greater hypertrophy.

Neck-tissues about and below angle of jaw are puffy, no pain or tenderness, however.

Chest—Lungs and heart apparently normal.

Throat culture, 7/28/22—showed staphylococci only.

W. B. C., 7/28/22—12.200, no differential made.

7/28/22—No change in condition, neck still swollen and tonsils enlarged, most marked on the right side and obviously confined to the nodes of the anterior cervical chains.

7/29/22—Anterior cervical chains and inguinal nodes enlarged. No other lymph adenopathy. Spleen not enlarged. Differential W. B. C. showed:

Leucocytes	15,200
Polys	25.6%
Lympho	73.0%
Trans	.8%
Eosin	.5%
Baso	.1%
Lmyphoblasts	4.8%

Throat culture by Dr. Clark.

7/30/22—Post. cervical chains and right epithrochlear nodes enlarged. Liver and spleen palpated. X-rays taken.

7/31/22—Post. cervical on the left, axillary nodes on right, are palpable today. Condition otherwise unchanged.

8/1/22—Superficial lymph nodes somewhat reduced in size.

Liver and spleen still palpable.

Urine analysis—negative throughout.

X-ray report—Definite enlargement of tracheo-bronchial lymph nodes, particularly at right hilum.

Left tracheo-bronchial lymph nodes not so acutely involved as those on the right side.

1 c.c. of normal saline was injected into one of the anterior cervical nodes on the right side, and after manipulating the node a small amount of fluid was withdrawn and put on a chocolate-blood agar plate.

8/2/22—Liver and spleen still palpable. Superficial lymph nodes as yesterday.

8/3/22—Tonsil still large and red. Liver and spleen palpable.

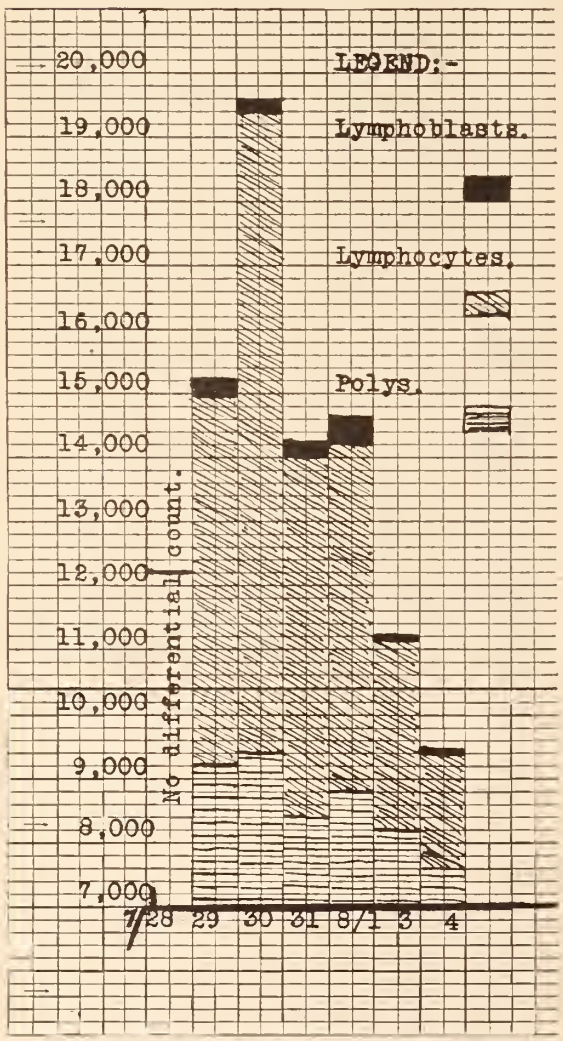
8/4/22—Right epitrochlear still palpable, also spleen. Liver definitely reduced in size.

8/5/22—Patient refused further treatment—discharged.

*From the University of Wisconsin Infirmary.

DAILY LEUCOCYTIC COUNT.

	W. B. C.	Polys. %	Lymph. %	Trans. %	Eosin %	Baso %	Lymphoblasts. %
7-28	12,200	No differential					
7-29	15,200	25.6	68.2	0.8	0.5	0.1	4.8
7-30	19,600	19.4	76.4	0.3	0.9	0.2	2.8
7-31	14,200	17.9	78.0	0.7	0.6	0.4	2.6
8-1	14,600	21.1	71.9	0.8	0.7	0.4	5.0
8-2	11,200	25.1	71.4	1.0	1.5	0.2	0.7
8-4	9,400	2.4	73.9	0.8	0.8	0.1	0.4



DISCUSSION.

On admission the tentative diagnosis was Peritonsillar abscess. However, the absence of any pain whatsoever, and the lack of any increase in temperature seemed rather unusual. With the appearance of the general lymphadenopathy and the enlargement of the liver and spleen, the blood picture became an important factor in the diagnosis, and more especially, prognosis. The picture is one of unusual lymphoid stimulation, with the appearance of young lymphocytic and lymphoblastic forms, essentially leukemic in nature. However, the mildness of the symptomatology and clinical course and the favorable termination determine the diagnosis of infectious mononucleosis.

From the standpoint of prognosis differentiation from lymphoblastic leukemia is of the utmost importance.

The occurrence of three cases of infectious mononucleosis among 3000 students admitted to the University Infirmary in the past two years gives an idea of the relative infrequency of this condition; and yet it is realized that routine differential blood counts in general practice in cases of lymph node enlargement may greatly modify the figures.

CLINIC GIVEN BY DR. BRULE.

Assisted by Dr. Widal, Paris, France.

Reported by Dr. J. A. Evans, American Ambulance Scholar, Paris, France.

The following is a report clinic given by Dr. Brulé, who is in Dr. Widal's Clinic, the subject being sciatica. He shows you how complex the subject really is. His remarks were prefaced by remarks on observations made during the war. At that time many new signs of sciatica being found to rule out malingerers.

Pathology—3 levels.

I. Roots involved—almost invariably syphilis.
   Abolition of knee jerks.
   Sensory involvement.
   Lumbar puncture.

II. Among the radicals of the plexus (uncommon).
   Characteristic zonal sensory disturbances.
   Knee jerks not lost.

III. Peripheral.
   Knee jerks not lost.
   Often pain over nerve at point of exit and in popliteal space.

Points in diagnosis and signs—

1. Old classical sign of stretching sciatica by raising let but a new modification to discover malingerers by asking them to sit up in bed as though to auscult the back and then patient will flex knee on affected side to relieve stretching of nerve.

2. Tenderness not necessarily present at all—often absent over course of sciatica.

3. Knee jerk often exaggerated on affected side on account of extensors of knee supplied by femoral nerve being in better tone than antagonistic flexors supplied by injured sciatica.

4. Loss of ankle jerk in many cases, but if still present look for:

5. Loss of retro external malleolar reflex which is more sensitive than Achilles jerk and will be lost the first.

6. With patient kneeling on chair, affected limit will often show the angle of the foot to the foreleg to be a right angle, instead of the normal angle. This sign is due to loss of muscle tone of gastrocnemius.

7. As the patient kneels on the chair the foreleg is apt to be held a little higher on the well side than on the affected side because of the loss of tone of the flexor group in the thigh.

8. The gluteal fold on the affected side is often lower and the anal groove is often oblique directed outward and below the affected leg.

9. Muscular atrophy of flexors in thighs or gastrocnemius.

10. Loss of muscle power—have patient stand on toes.

11. Muscle fibrillation on affected side when struck with percussion hammer.

12. Electrical reaction showing nerve degeneration.

13. Sensory disturbances, Anaesthesia, Differences to heat and cold. (Are these differences segmented according to nerve trunk or nerve roots or spinal cord-)

14. Affected limb often colder to touch.

Etiology: Always seek cause.

1. Syphilis—of cord (spinal puncture).
   Syphilis—of sciatic nerve (Wassermann).

2. Pott's Disease—usually bilateral zone of hyperaesthesia and pain with girdle distribution about trunk, Spinal deformity and immobility but be careful not to consider the natural reflex scoliosis often seen in true sciatica due to a Pott's Disease.

3. Intrathecal and cord and spinal tumors.

4. Traumatism with vertebral injury and pressure on spinal roots at exit from spinal column. (History and X-ray).

5. Hypertrophic arthritis with pressure on cord roots on exit from spinal column. (X-ray).

6. Pelvic tumors—cancer of rectum.

7. Idiopathic—more and more come to be considered a rheumatic neuritis of the sciatic nerve.

8. Diabetes—look for sugar—often bilateral.

Prognosis:

Hard to make in cases where etiology is doubtful. Loss of the tendon reflexes does not necessarily give a long prognosis as the cases may recover completely in 15 days and the ankle jerk remain abolished for a long time.

Treatment:

1. Your intra sacral injection highly praised but usually only temporary.

2. Baking—Meythl salycilate liniment.

3. Alcoholic injection of nerve to be avoided account of ensuing motor paralysis but alcoholic injections along course of nerve near to it often beneficial.

4. Sodium salicylate injections into nerve trunk (0.1 gm. to 2. c.c. of distilled water) highly recommended.

5. Sodium salicylate intravenously .1 to 100 c.c. Saline, to be avoided except in extremely refractory cases account of hemoclasic shock apt to ensue. Of value however.

6. Salicylates by mouth or rectum.

7. X-ray treatment of immense value over lumbosacral plexus. Best, however, when process is chronic with sclerosis of nerves of plexus or sclerosis of rheumatic process in vertebrae.

The patient presented was a truck driver, suddenly six months ago pain in left lumbar region, two weeks later right lumbar region and course of Sciatic. Case diagnosed as a rheumatic affection of lower lumbar vetebra; occupation probably of some import or cause. X-ray negative; Wassermann, negative. Pain over sciatic forearm and on stretching nerve; can't stand on right toes. Slight atrophy of right calf. Loss of ankle jerk and retro malleolar reflex. Slight anaesthesia of lower right leg. Right knee jerk hyperactive. For awhile could not walk. Atruphy of R. gluteal region with obliquity of R. anal fold. Flexes R. knee on sitting up in bed. Lumbar puncture negative. Temporary relief following intrasacral injection.

Is getting well on X-ray treatment over R. lumbo-sacral plexus and over lumbar spines after 4 months of other treatment.

Day before yesterday excellent clinic on dysentery and mucuscolitis. Only new points were (1) that during the war almost all so-called bacillary dysenteries were found to be associated with amoebae even when agglutination to Shiga's, Hiss', or Flexner B. dysenteriae was Shiga's serum the only one of any value and even Shiga's bacillus cases often failed to clear up on treatment. Such cases found often to be associated with amoebae.

Treatment: Emetine intra. alternating with arsphenamine. Must persist as in syphilis in order to prevent chronic relapses.

In mucus colitis he brought the necessity of studying the stool reactions—whether the acid of fermentation; or the amphoteric or alkaline of putrefaction and regulation of diet absolutely necessary or different according to whether putrefaction or fermentation during the constipated periods of mucus colitis.

Beyond this — agar agar — petrolatum, belladonna. Avoidance of nervous fatigue.

In connection with this diet, treatment of mucus colitis, 2 articles on Bacillus Acidophilus in the August 19 A. M. A. Journal are of interest in which skimmed milk inoculated with bacillus acidophilus is used with success in constipation of the *putrefactive type only.* The acid fermentative type would only be aggravated.

CASE REPORT WITH MORAL.

Mrs. H. H., 22yrs., Married.

Family History—

Nothing of importance except that father died at 53 of pneumonia and two uncles and one grandfather died of tuberculosis. No direct contact established.

Previous History—

Influenza, 1918; bronchitis, 1918; pneumonia three times; pleurisy, 1919; frequent colds; swollen glands of neck a number of times. Diagnosis of tuberculosis made in 1921 and again by a different physician in 1922.

Exam. at W. A. T. A. Clinic—

Temp. 99.8°. Pulse 110. Past weight 120. Present weight 109½. *Lungs*—Impaired resonance, prolonged expiration with coarse moist rales over area extending from mid-spinal line to left scapula and from 4th dorsal spine up.

Diagnosis—

Suspicious pulmonary tuberculosis left upper. Referred to family physician for sputum examination, observation and repeated chest examinations—in order to confirm diagnosis.

Three weeks after the above examination, the following letter was received:

"I was examined for tuberculosis during the chest clinic over at ——— and if you remember the doctor said I had T. B., but that the trouble was slight and advised me to go to my doctor for a complete examination, which I did. But to my surprise he made the examination through all the clothes that I wore to his office. And he spent possibly three minutes on me. And then sent away some of my sputum to Madison and said they found it to be negative. He says there is nothing wrong with my lungs. So I was not at all satisfied with his examination nor his attitude toward the case. So I wrote the county nurse asking her advice. She came over to see me yesterday. She gave me your address and asked me to explain things to you and ask your advice. Should I continue to keep the doctor I have, or shall I go to someone else? Or would you suggest a specialist?

"I have a temperature of 99° all the time and quite often I find it to be 99 2/5°. Do you think it best for me to be in a sanitorium? If so, where would you think best for me to go? I do not want to go to a sanitorium if I can help it, but I do want to get well. I must, and am going to get well if I can get someone to instruct and help me. I also realize the need of starting the fight while the trouble is still slight. So if you can suggest anything or anyone that will help me, I would surely appreciate your kindness. I shall await some word from you with much interest."

COMMENT.

Now wouldn't that jar you! Here is an intelligent patient trying hard to save herself from an untimely death, and when she turns to her medical adviser for help, what does she get? About the poorest excuse for an examination of the chest that is well nigh imaginable! A life-guard throwing a toothpick to a drowning man couldn't do less than this doctor did for his patient. We wonder if this physician realizes what his examination and advice might have meant to the patient. A less intelligent patient might have been satisfied with his examination!

If there is any better reason for the existence of chiropractic, Christian Science, and the numerous other medical quackeries I have yet to find it. There would be little need for the medical profession to go to the Legislature for protection if the public did not open the doors to the quacks by such flagrant mal-practice. And mal-practice it is for this patient didn't even get a run for her money!

How can we expect to hold the confidence of the public when we give the kind of service handed out and probably charged for in the above case? Isn't it almost time that the medical profession realizes the poor policy of delivering inadequate or even counterfeit goods? Barnum may have been right, but practicing medicine was not his game.

APPENDICITIS.*

BY M. IVERSON, M. D.,

STOUGHTON.

Under certain circumstances I have found what I think is eteological relation between appendicitis and certain ovarian tumors. For practical purposes ovarian tumors can be divided into two groups, solid and cystic, and each of these into benign or malignant groups. Eighty per cent of all ovarian tumors are cystic in type, fifty per cent of these are classified as cystadenoma, two per cent of which are malignant and usually unilateral, ninety-

*Read at Madison General Hospital, Clinic Day, May 9, 1922.

four per cent of them being located on the right side.

It is a common occurrence in abdominal operations to find membranes and adhesions of inflammatory origin around, over and between the caecum, appendix, meso-appendix and the female internal organs of the right side. Most of these adhesions in time are reabsorbed, but some remain and have been many times described, and have acquired standard names, such as Jackson's membrane. These adhesions or membranes may result in obstruction of the bowels, close up the tubes, or cover up the ovaries so that they cannot empty. Now it has happened many times that I have found such ovaries in many variations of form and size covered with membrane without scars, but of varying thickness which contained one or more cysts of varying sizes, usually on the right side, which leads me to believe that the inflammation which causes these membranes is also the cause of these cystic ovaries.

Some physicians seem to think that genital infections are usually the cause of such occurrences, but if this is so why is it so much more common with the right ovary than with the left, I have come to believe that when infection is of genital origin, the trouble will be found on both sides, but that when the trouble is on the right side in the form of ovarian cysts, the inflammation of the appendix is the primary cause with the destruction of the ovary secondary. It seems from my observation that appendicitis is much more common than genital infection.

Of the many cases I have seen I will mention a few that are typical:

Case 1. A young girl was operated upon for appendiceal abscess and the appendix was removed. From that time on her character changed and she became a hysteric nuisance. Her condition was blamed on the appendix. She was reoperated and an enlarged ovary found and removed on the right side. She improved for a while but was soon again in the same condition. The abdomen was again opened and the other ovary was found diseased and removed. After some trouble due to her menapause, she became a very pleasant person and as a trusted servant has been with the same family many years.

Case 2. Young woman, married six years, no children, was operated on for chronic appendicitis and an enlarged right ovary was removed. The left tube was split at the distal end. Three months later she became pregnant and had a child in due time. The left ovary proved to be normal.

Case 3. Middle-aged married woman, no children, operated for extra-uterine pregnancy on the right side. At this time the left tube was split at the end. The next year she had a successful conception. It cannot be proved whether the infection originated from the appendix or the genitals except that the left tube and ovary functionated normally.

Case 4. (This is the case that made the first impression on me.)

Young woman, twenty-two years old, married, had two children. After her second confinement she suffered a complete change in character. Becoming malicious and irritable, hating her husband and abusing her children. She complained of abdominal pain and was treated at first by a local doctor and then taken to a famous clinic where sanitarium treatment was recommended, but after many months she returned home in the same condition. Following a severe vomiting spell, I found she had an enlarged ovary that was very tender. I operated upon her for this, and at the same time removed a kinked-up appendix with membrane and adhesions that also adhered to the ovary. This ovary was about five times the normal size and covered with a smooth, white, strong membrane. Three weeks later she returned to her family with a changed disposition, she became a lovely person and has remained so. Since then she has had two children and lives a happy family life.

We all know how closely allied are the condition of the ovaries of a woman to her happiness. I have always believed there is an organic cause for hysteria, and that ovarian trouble is one of the causes. I know now that the appendix at all events at times, by crippling the ovary is one cause of ovarian trouble. I believe that a female—girl or woman—should always be operated upon after the first attack of appendicitis, and believe that if this were done the number of ovarian cystic tumors on the right side would decrease, and I believe that every physician should proclaim the same.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

THE DUTIES OF A DEPUTY STATE HEALTH OFFICER IN ASSISTING THE LOCAL HEALTH OFFICERS IN CARRYING OUT THEIR WORK.

BY LOUIS DORPAT, M. D.,
DEPUTY STATE HEALTH OFFICER,
RHINELANDER.

A tailor does not make coats for all his customers after one measurement; the argument of a clever lawyer before a jury is unlike the one he uses before a judge; a minister does not preach the law and the gospel alike to the penitent and to the impenitent; nor does any but a quack doctor dispense his remedies for all ailments from a single bottle. Just so the duties of a deputy state health officer must necessarily vary according to the type of health officer he is dealing with.

With all due respect to my audience, it might be as well right here to drive home with emphasis that there are health officers and health officers. Let us attempt a classification. There is:

1. The health officer who knows and does.
2. The health officer who knows and does not.
3. The health officer who knows not and does.
4. The health officer who knows not and does not.

Classes 3 and 4 may be re-classified as

5. The health officer who knows not, but desires to know, and
6. The health officer who knows not and does not want to know, or who, to express it more elegantly, does not give a "continental whoop."

The health officer who knows and does is a very precious and a very, very rare individual. All the duties of the deputy state health officer in assisting the local health officers in carrying out their work may be summarized in the one brief sentence that they consist of an endeavor to put every health officer into this first class, that is, to make out of every health officer not only a capable and fully qualified individual, but also a conscientious and willing worker. Of course, every one who knows anything at all about health officers and boards of health in Wisconsin and the system in vogue here is thoroughly convinced that this can never, never be accomplished under our present system of appointing health officers. One might as well try to turn tin into gold, which may sound very blunt and uncomplimentary, but which is nevertheless very true. Lest I forget to say it later, I must state in this connection that if our present system of having a health officer in each village and town must be adhered to, the State Board of Health should at least have a hand in the selection of the health officer and there should be not only a minimum salary fixed by the legislature, but there should be a minimum standard for the local health officer's qualifications. Without some outside assistance along these lines the deputy's staunchest resolutions and endeavors to do his duty in assisting local health officers in carrying out their work will be like the action of a fool trying to batter down a stone wall with confetti.

But let us turn our attention to the second class of health officers, the health officer who knows and does not. He is either lazy, or without a conscience, or a coward. At times we find all three of these delightful attributes concentrated in one single charming individual. There is a type of health officer, not at all uncommon among physicians, who belongs to this class. He is usually found in the cities. When he is approached regarding the duties of the important and responsible office entrusted to him, he dismisses the whole matter lightly with a wave of the hand and tells you that the public should be blankety blank glad to have him act as health officer at all and not go so unreasonably far as to expect that he do any work. His time is far too valuable. He has a large practice, even does some surgery, removes appendices, tonsils, etc. How preposterous to suggest that such a man conduct investigations to determine the source of infection in communicable diseases or to find missed or even intentionally concealed cases! His aim in his high calling is higher. It is to make money, not enemies. He is an idealist. He agrees with the noble man who laid down the sacred rule that "dying for principle is all rot."

In this state there is a city with about ten doc-

tors and not one among them willing to give a reasonable portion of his time to the duties of a commissioner of public health. The law requires that in this city the *mayor* appoint a regularly licensed physician as commissioner of public health. There is no choice in the matter. None other than a physician can be appointed. Remember there is not a physician in town who does not say, "I do not want the office. I can not afford to give my time to it. If I accept the appointment, I shall leave much of the work undone." I ask you, would it not be far better in such a case than an intelligent layman be appointed who would at least make an earnest effort? You say, it is a question of salary. Why of course it is a question of salary. But what do you say of a man who goes into one of the most important pieces of public work existing with the boldly avowed determination to do it improperly? It is hard to speak with moderation when discussing that type of an American citizen. Don't you think that the honorable, the honest, the fair and square, the only decent thing for him to do would be to choose between two things: either insist on the payment of an adequate salary and do the work right, or to decline acceptance of the office?

About the health officer in the third class, that is, the health officer who knows not and does it may be as well to say very little. He is a strikingly dangerous individual, not unlike a child whose toy is a loaded automatic pistol. Knowledge is power, but when there is power without knowledge, may the merciful heavens protect us!

Let us turn now to the health officer who knows not and does not. That "bird," to combine two classical metaphors, is a "peach." Wisconsin could fill a number of baskets with such peaches, but Wisconsin would do better to "can" them.

For the health officer in the fifth class who knows not, but desires to know, there is hope, while there is none, of course, for his colleague in the sixth class, who knows not and does not want to know. He and the health officer who knows not and does not make a wonderful pair. Such pairs, too, should be "canned." That kind of canned goods will keep. It suffers no real harm and, which is of greater importance, causes none. "Cooperation" has been a favorite word with us. In order to cooperate, however, there must be something at the other end of the line to cooperate with. For one who has tried it it is hard to escape the conclusion that cooperation with a vacuum presents some difficulties. Even a vacuum cleaner will not avail. It is hardly feasible to clean a vacuum. It would be far preferable to put something else in the space it occupies.

Oh yes, the deputy who has been in the field for some time knows them all. He can tell a good from a poor health officer by the twist of his nose or the brand of cigars he smokes.

The female health officer, being of more recent origin and belonging to the more mysterious sex, presents for the time being a far more puzzling problem. For the present, it will be safe to classify her as an unknown quantity, though slight observations already made appear to justify the assertion that she is quite human and not without promise.

Shall we now turn the spotlight of inquiry and investigation for a brief merciless moment on the deputy state health officer? No doubt it would be fairer, after a deputy has classified the health officers, to have a health officer now classify the deputies. Then perhaps the real fun would begin. "Oh wad some power the giftie gie us, to see oursel's as others see us!"

It is not my intention to present to your view the deputy as he is, with all his faults and shortcomings, but rather to correct a few wrong conceptions of his work and give you what I consider the proper conception. If we could throw a picture on the screen of a deputy as he should be, what would we behold? Would we behold a man powerfully constructed strutting through the state, clad in a blue uniform, wearing a bright star, swinging a club and rapping citizens over the heads and throwing them into a waiting patrol wagon, to be hauled into court the next morning? The words "deputy" and "officer" appear to suggest such a picture to many.

Recently a man said to me, "Since the state health officer has you deputies in the field, his labors must be of a most pleasant nature, for he has you to do all the dirty work." That man evidently had a high opinion of my work and did not hesitate to express his appreciation.

It is very desirable that people drop the false notion that a deputy state health officer is a policeman, that he performs dirty work, or even that he visits a community or should visit a community

only in time of trouble, disturbance or affliction. One health officer is in the cheerful habit of greeting my arrival with the remark, "Well, what's the matter now?", and in another town an old maid who waits on the table in the hotel never fails to ask, "There isn't anybody sick in town, is there?"

In the past too many health officers considered the deputy as a convenient person to have around to perform an unpleasant task or to get the health officer out of an awkward situation which he, through neglect of duty, created for himself. I do not wish to be understood as intending to convey the impression that a health officer should hesitate to call a deputy in time of trouble, when he needs assistance, or feels unable to cope with a difficult situation. It is, of course, the duty of the deputy to respond promptly and cheerfully to all such calls and to give the best service he is capable of on all such occasions. But the local health officer should not shirk his work, nor be permitted, void of all sense of duty, to unload his responsibility on another person. For his own good he should not be permitted to do this.

The highest and foremost duty of the deputy in assisting local health officers in carrying out their work should be an endeavor to make them independent, self-reliant and able to meet all, even the most difficult situations without assistance. What do you say? The local health officer has not the power to do it? If his local board of health stands back of him, he has practically unlimited power. Every health officer who has studied the laws relating to the organization and powers and duties of local boards of health knows that the legislature has given them authority to "take such measures and make such rules and regulations as they may deem most effectual for the preservation of the public health. They may appoint as many persons to aid them in the execution of their powers and duties as they think proper, regulate the fees and charges of every person so employed by them and fix the salary of the health officer, examine into all nuisances, sources of filth, and causes of sickness, and make such rules and regulations respecting the same as they may judge necessary for the public health and safety of the inhabitants." Higher power and authority could not be conveyed. The power and authority of the State Board of Health itself is not greater than that.

In justice to the local health officer, it should be pointed out in this connection that the local board of health more often than the health officer is to blame for much of the existing indifference and inactivity. In places where boards of health exist the board of health and not the health officer has been given power and authority by the legislature. It should not be forgotten, therefore, that it is at least as important to educate local boards of health as it is to educate the local health officer. Without the cooperation of this board of health, or at least in the face of their opposition, the local health officer can do little or nothing.

There is probably not a person in the service of the state whose duties are more minutely and elaborately outlined in the statutes than are those of the deputy state health officer. Most of you no doubt have read these statutory provisions. It is not my intention to reiterate them now. Upon the whole, it appears to have been the intention of the legislature to have the deputy advise and assist local boards of health and health officers and, according to section 1407a-5, to some extent at least, to direct the work of the local health officer.

My conception of the duties of the deputy in assisting local health officers in carrying out their work is that he should not perform their work for them, but make every endeavor to get them to perform their work. As the majority of health officers need instruction regarding the performance of their work, the deputy as their assistant, advisor and director, in the natural course of events, must also necessarily be their instructor. If the best results are to be obtained, the relation of instructor and student between the deputy and the local health officer is unavoidable and essential. It is not enough, however, that the health officer alone be instructed, the whole board of health must be willing to learn. This instruction must be regulated according to and adapted to the capabilities and individual requirements of the pupil. It must be regular and systematic, not spasmodic. Let it be well understood that very few health officers indeed are so well informed that they may not profit by such instruction. I am now referring to the medical health officer as well as to the health officer who is not a physician.

In the correspondence-study course for health officers given by the University Extension Division (and it is a great pity that this excellent course is not more extensively used by our health officers) there is the following message: "While it is not

disputed that the medical health officer has many advantages over the 'lay' health official in his preparation for the duties of health officer, yet it is undoubtedly true that the proper administration of health work in town, city, country, or state is a profession in itself. The health officer, if he is efficient and 'on the job', meets problems and conditions every day, in the solution of which his medical training (if he has such), is of little value. Special training is even more important in the field of public health than in the field of law or medicine. The lawyer deals with property and private rights, the doctor relieves pain or saves an individual life, but the trained health officer guards the health of the whole community, wards off epidemics, and prevents the spread of communicable diseases."

I believe I know whereof I speak, when I say that a comparatively small percentage of health officers has a proper conception of the epidemiology of communicable diseases and the modern methods of prevention and control.

The Manual on Epidemiology for the New York State Health Officers, a booklet which I wish with all my heart that every one of you could read and study, says: "Until ten years ago the conscientious health officer quarantined each case of communicable disease as it was reported to him and diligently fumigated the premises when the case was terminated. Having done this he was entitled, according to our then existing beliefs, to entertain lively satisfaction with himself and to expect the heartfelt gratitude of the community. Unfortunately many communities and some health officers have not advanced beyond this point. The quarantining of reported cases and the terminal fumigation of the premises are relatively unimportant features in the control of communicable diseases. The time and energy that we formerly consumed in fumigating (and at times destroying) clothing, mattresses, trunks and the thousand and one things that had been actually or theoretically exposed to infection was practically wasted as long as we permitted mild, atypical, concealed and otherwise unreported or undiscovered cases and healthy 'carriers' and contacts to roam at large."

These quotations should carry the conviction that education and instruction for the health officers and boards of health in Wisconsin are badly needed. How is this instruction to be given? Should the deputy visit each individual and spend enough time to go into all the details of health laws, organization of local boards, local ordinances, all the local conditions, the transmission of diseases, the keeping of records and statistics, filing and indexing, the making of charts and pin and spot maps, the collection and disposal of municipal waste, the sanitary care of milk, meat and all other foods, the inspection of public buildings, the inspection of school children and prevention and control of communicable diseases among them, quarantine, isolation, disinfection, registration of births and other vital statistics, morbidity and mortality records, advertising of health work, proper use of the press, the procuration of cooperation of the people by education, by persuasion and by organization? Shall all this, and perhaps some things I have forgotten to mention, be taught by the deputy to each health officer individually? Common sense at once answers with a very loud and decisive "No," for common sense says that it can not be done. It is wholly infeasible, impossible. An attempt would be absurd. Fifty deputies would be required to do the work and then they could not induce local health officers and boards of health to give them their time. It is not child's play. It means knowledge. It means study. It means hard work. It means strict, continued and continuous application.

Shall the health officer be taught all these things in these biennial health conferences here in Madison? These conferences are highly beneficial and wholly indispensable, but not at all adapted for the detail work of the kind referred to. Moreover these conferences, of course, do not come with approximately sufficient frequency. In an article in the July number of "The Wisconsin Medical Journal" on "Control of Communicable Diseases" Dr. W. D. Stovall, to whom you need no introduction, says: "It is not enough that health lectures always be made by men who make a business of entertaining the public. These lectures necessarily talk in generalities. Such talks have a prominent place in advancing public health, but talks of a more technical nature are required in order to give the detail which is necessary if any adequate organization is to be obtained. The public lectures, therefore, should be given by two different types of men, those who stimulate the people to an interest in disease prevention, and those who instruct in the technique of disease prevention."

Instruction in the technique of disease preven-

tion can not be given profitably in these biennial conferences. Smaller groups and more frequent meetings are necessary. There should be numerous local meetings similar to those already held in a number of places. It should be our aim to make the work more technical in these meetings. To secure attendance, the legislature should provide for compensation for all health officers and members of boards of health attending such meetings. The county school board meetings are well attended, because legislative appropriation was made for them. Our meetings would be at least fully as important. We should also have an appropriation. These meetings should be supplemented by individual visits made by the deputy to local health officers and boards of health, but especially by correspondence study. The University offers a good course of this kind for the small sum of $4.00. It appears not to have been properly appreciated. Perhaps it was not properly advertised.

Since I have mentioned Dr. Stovall's article on "Control of Communicable Diseases" I must ask to be pardoned for digressing for a moment in conclusion and further calling your attention to this excellent contribution to public health literature in our state. It is one of the most important utterances on this subject that have appeared in print in Wisconsin. In his article Dr. Stovall refers to a pamphlet "Health Education in the Schools," issued by Mr. W. C. Sieker, Shorewood, Wis. It is an epoch-making work. There is not time to go into it here. Suffice it to say that these men advocate a new method of handling communicable diseases in schools which would revolutionize our whole system of dealing with these diseases and would lead, if my judgment is correct, to unheard of favorable results. Hero worship I despise, but I desire to say that I am proud that it was my privilege two years ago to move in this conference that the State Board of Health be requested to publish for wider distribution the paper Mr. Sieker presented to that conference. Mr. Sieker is doing some original thinking, and his suggestions are logical and practical and should be followed. It has been said that since Mr. Sieker lives in the fashionable suburb of a large city it is easy for him to apply the methods he advocates, but that it would be impossible elsewhere. That point of view is wrong. True it is, however, that to follow the Sieker plan we need legislation in conformity with it.

PUBLIC HEALTH NEWS ITEMS

Homes in which there is a case of whooping cough must be placarded for eight weeks after the beginning of the disease or for at least one week after the characteristic whoop has ceased. Well children in such homes can go to school.

No child should be allowed in school whose physical condition interferes with the peace and comfort of other children. Refusal of parents to give proper care is sufficient cause for appeal to the county court for commitment of such child to an institution.

The State Board of Health says: that it has no authority to compel parents to name children within a specified time. If a birth certificate is filed before the child is named a supplemental report can be filed for the purpose of supplying the Christian name in the original certificate.

The cities of Ashland, Green Bay, Manitowoc and West Allis have been suggested as meeting the qualifications laid down by the Commonwealth Fund, New York, as cities where a special child health demonstration might be financed. Each of these has had an average infant mortality rate of 100 or over per thousand live births reported.

When commitment for tuberculosis is considered the action should be based on failure of the afflicted person to carry a sputum flask or other receptacle for safe guarding the public against infection. Unless the patient agrees to comply with all the requirements for the protection of the public, proceedings to commit to a sanitorium can be started before any court of record.

The State Health Department says that birth and death records signed by an osteopath are accepted. Records signed by a chiropractor are not accepted. The chiropractor has no authority to sign such records. An osteopath is not authorized to practice obstetrics. A licensed osteopath is a physician within the meaning of sec. 1022-37 of the statutes, and may sign a death certificate. These rulings were made by attorney general in 1920.

Prosecution is warranted for wilfully allowing children with whooping cough to frequent a store over which the quarantined family live.

Wisconsin couples marrying outside the state and returning to this state to reside must file a copy of their marriage certificate with the registrar of the district where they live. A penalty attaches for failure to comply with this rule.

A world war veteran with tuberculosis is entitled to treatment at a government hospital if the disease is incident to his service, and if not, and if he is indigent, he can be committed to a county hospital at county expense upon petition to the county judge.

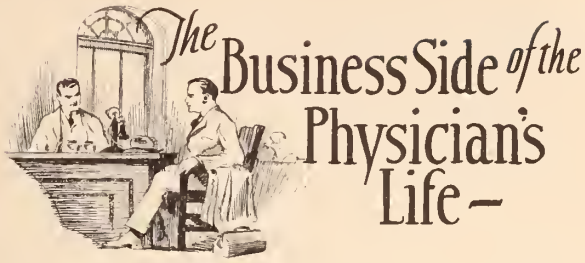
In case of doubt regarding the fatherhood of a child, it is the duty of the attending physician to leave blank, that portion of the birth certificate relating to legitimacy, unless a court action has determined the parentage. When a mistake is made by reporting a birth as legitimate, when in fact it is illegitimate or vice versa, a new certificate should be filled out and filed to be substituted for the one first made.

Physicians in the state department of health advise that filled milk be not used for feeding children, and especially for young children, but that if properly labeled, and used for cooking purposes there is less objection.

There are no specific state regulations requiring ice companies to advertise the source of supply. The State board of health takes the stand that ice harvested from water reasonably free from pollution is safe when used if free from particles of dirt or other foreign matter, but if harvested from badly polluted sources such as water receiving the direct discharge of sewage in the immediate vicinity of ice fields, it should be used for cooling purposes only and be advertised as such.

PHARYNGEAL INSUFFLATION ANESTHESIA.

Pharyngeal insufflation anesthesia is chosen by Albert H. Miller, Providence, R. I. (*Journal A. M. A.*, Aug. 5, 1922), for all of the operations in which the ordinary methods interfere with the work of the surgeon. In these cases, it is essential to efficient surgical work. The apparatus should be carefully chosen and intelligently used. Pulmonary complications following the use of pharyngeal insufflation are not due to the method, occurring with no greater frequency than after other forms of anesthesia.



Recent issues of the Journal of the American Medical Association have called attention to the existence of fradulent and slippery collection agencies, which have been doing a national business preying upon the gullibility of physicians. Confessions have been printed which were secured from victims who have been caught by contracts which never would have been signed had the doctors carefully read all the words above the dotted line. But it's not about frauds that I'm thinking primarily but about collections.

Making proper charges for professional services and utilizing proper methods for collecting them might well be made a part of the medical college curriculum. Not that the exact technique could ever be entirely communicated any more than in the art of practising medicine, still the tyro should have more of a foundation to build upon than the average one has. The burning question is not how more money can be earned but how patients can be made to pay what they should for services likely to be worth more rather than less than they are charged.

Unquestionably the most important part of any such program is promptness in sending statements. The flavor of wines and cheese may be improved by age but never that of an obligation to pay. "Nothing is forgotten so quickly as pain" and every hour which lapses between the rendering of a service and the rendering of a bill for that service looses something in appreciation if not in actual money for the physician.

The conscientious, prompt-pay patient, furthermore, has every right to feel imposed upon when an unexpected bill arrives to upset the calculations as to just how and where a month's salary or income shall be distributed. Perhaps you may say that such a person should have remembered his obligation. Perhaps! But remember we are living in a modern age and people have the right to assume that their creditors are using modern methods.

Modernity in itself has no particular claim upon

physicians; but when a custom is correct in principle and sound psychologically, there is more profit in following it than in bucking or ignoring it.

Another great aid to the physician who is determined to keep his account books reasonably verdant is a *collection incentive.* This may be a library he is paying for on the installment plan, new equipment for his office, a life insurance premium, or a bond being acquired on the partial payment plan. You know how it is yourself when the butcher or garage man approaches you and puts it up to you in about this way: "Say, Doc, I'm being threatened with a lawsuit if I don't raise some money and pay something on a bill for $165.00 that I owe. I've been wondering if you couldn't let me have some money on that account of yours."

Do you fall for it? Of course you do, even if you suspect the lawsuit is but a figment of the imagination. There's something personal and appealing about that claim and instead of resenting the dun you feel a little bit better for having met it.

Your debtors are just as human as you are and by and large they feel very much more anxious to please you than you need to be to please the tradesmen who serve you.

Nobody of course believes for one second that a good doctor isn't entitled to honest fees for honest services. But there has grown up a tradition which many physicians are loath to shatter—that indifference to the cash is part and parcel of a proper professional attitude. And a reasonable regard for that attitude is most wholesome and when manifest, does raise physicians above the common level of mankind. However, fees of physicians have not been raised proportionately to the cost of gasoline, coal and other necessities of life. This, too, is creditable to the medical profession. But why not call attention to that fact and make it another reason for expecting prompt payment?

The "cash and carry" movement has resulted in building up great chains of retail markets. These stores are making it mighty uncomfortable for the old time merchants whose relatively high prices were grudgingly and resentfully paid by people who realized that however prompt they were in meeting their own bills, they were being called upon indirectly to pay the bills of the dead beats.

Your public is prepared to accept a prompt-pay basis for your professional services. Why not give it to them and prepare yourself to spend wour declining years in the comfort you are now paying for.

COMMITTEE ON TOXIC EFFECTS OF LOCAL ANESTHETICS.

A Committee for the Study of Toxic Effects of Local Anesthetics has been appointed to act under the Therapeutic Research Committee of the Council on Pharmacy and Chemistry. The personnel of the committee is as follows, the several members representing the sections of the Scientific Assembly as indicated: Emil Mayer, chairman, New York (Laryngology); Elliott C. Cutler, Boston (Surgery); Henry S. Dunning, New York (Stomatology); Robert S. Lamb, Washington, D. C. (Ophthalmology); David I. Macht, Baltimore (Medicine); Charles Norris, New York (Pathology); Alexander Randall, Philadelphia (Urology), and Robert A. Hatcher, secretary, New York (Pharmacology).

The purpose of the investigation which it is proposed shall be conducted is to assist in increasing the safety, value and importance of local anesthesia. All information received by the committee will be considered strictly confidential. The committee will appreciate the co-operation of physicians. This co-operation can most practically be given by furnishing the following information to the chairman or to one of the committee:

1. Have you, during 1920 or 1921, observed any toxic effects—fatal or not—following the use of cocain or any of the other local anesthetics?

2. If you have observed such toxic effects please submit a detailed report of each case; record, among other facts, data concerning the patient's general condition, the occasion for using the local anesthetic, the drug employed, the method of administration and the dose administered.

3. Kindly inform the committee of the name and address of any physician whom you know to have had any accident with any one of the local anesthetics.

A CONTRIBUTION TO THE PROBLEM OF NEPHRITIS AND NEPHROSIS IN PREGNANCY.

Nephritis and nephrosis, according to Joseph L. Baer, Chicago (*Journal A. M. A.*, Aug. 19, 1922), are separate and well-defined renal diseases involving different parts of the kidney mechanism, with different findings, and requiring different treatment. Renal function tests and capillaroscopy are fully as important as urinalyses and blood pressure readings and are necessary to classify and treat renal pathologic conditions in pregnancy. The kidney of pregnancy occupies a position between nephritis and nephrosis, can be differentiated and should be treated like the type it resembles. Pyelitis of pregnancy of severe degree can be differentiated from a pyonephrosis by testing the integrity of the renal function. Eclampsia seems to be due to a placental toxin which causes a special toxicosis of the brain and consequent convulsions, totally different from the uremia of nephrosis, from which it can best be distinguished by the accompanying fever, which is absent in uremia.

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Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

DANE COUNTY.

The October meeting was held Tuesday evening, Oct. 10, in the Association of Commerce rooms at 8 P. M.

PROGRAM.

SYMPOSIUM ON GOITRE.

Prevention of Goitre.....H. P. Greeley
Medical Treatment of Goitre.....L. R. Head
X-Ray Treatment of Goitre.....Herman Gilbert
Diagnosis of the Diseases of the Thyroid Gland (illustrated) .....Arnold Jackson

Discussion by Drs. Jos. Dean, A. G. Sullivan, Thos. W. Tormey and R. H. Jackson.

FOREST, FLORENCE, OCONTO, MENOMINEE AND MARINETTE COUNTIES.

The joint medical meeting with the medical societies of Forest, Florence, Oconto, Menominee and Marinette counties represented, was an extremely interesting affair to the twenty-five physicians present and the social features of the evening rounded out the success of the event in a social way. The meeting took place at the home of Dr. W. H. Dohearty in Peshtigo and opened with an address by councilman, Dr. T. J. Redelings.

GREEN COUNTY.

The Green County Medical Society held a meeting Aug. 29 at Decatur Dam, near Brodhead. Physicians from surrounding cities were more than pleased with the hospitality shown by the Brodhead physicians. An elaborate picnic dinner was served and everyone had a most enjoyable time.

MANITOWOC COUNTY.

Members of the County Medical Society and county board members met at Whitelaw at Maple Crest, Sept. 23 for a 1 o'clock luncheon, featured by addresses by Dr. Pleyte, of the Wisconsin Anti-Tuberculosis Society, Drs. Boyd and Gregory and Albert H. Schmidt. Covers were laid for sixty.

THE MEDICAL SOCIETY OF MILWAUKEE COUNTY.

The regular meeting of the Society was held at the Public Museum Friday evening, October 13, 1922, at 8:30 o'clock.

The following program was presented:

1. Diagnosis and Treatment of Diabetes Mellitus. By Dr. B. H. Schlomovitz, Director of Laboratories, U. S. Hospital, N. W. Division.
2. The combined use of Insulin and Diet Adjustment in the Treatment of Diabetes Mellitus, by Dr. R. T. Woodyatt, Rush Medical College, Chicago, Illinois, by invitation.

The program presented interesting features touching along lines of new work in the subjects treated. This being the first meeting of the coming year, a program such as the above was selected to interest everyone and call forth a large attendance.

MILWAUKEE PHYSICIANS' ASSOCIATION.

The annual meeting of the Milwaukee Physicians' Association was held at the offices of Dr. Hugo Siekert, Grove St. and National Ave., with a full membership represented.

The following officers were elected:

Pres., Dr. Hugo Siekert; Vice-Pres., Dr. E. H. Sutter; Secy. and Treas., Dr. B. P. Churchill; Censors, Drs. A. B. Hoermann and C. W. Graham.

Announcement was made by Dr. Churchill of the purchase of three-quarters of a mile of shore line at Silver Sands, Lake Michigan, Ozaukee County, on behalf of the association. The spot which was visited at a summer outing was voted ideal for the establishment of a colony for the benefit of the members and their families.

The association has just completed the most successful year in its history, with a large attendance at the weekly meetings, many of which were open to the families of the members. During the summer, auto outings were enjoyed.

MILWAUKEE ACADEMY OF MEDICINE.

The Milwaukee Academy of Medicine held its first meeting of the year on October 10th and the following interesting program given:

1. Presentation of Clinical Cases, Pathological Specimens and Interesting Roentgenograms.
2. A Case of Exopthalmic Goiter with Diabetes in an eleven-year-old child, Dr. J. Gurney Taylor.
3. Birth Control and Sterility, Dr. C. Henry Davis.
4. Remarks on Foreign Clinics, Dr. F. J. Gaenslen.

NINTH COUNCILLOR DISTRICT MEDICAL.

The annual meeting of the Ninth Councillor District Medical Society was held at Wausau, Sept. 21. A Clinic was conducted at St. Mary's hospital, followed by a dinner at the Wausau club and a program of addresses was given in the evening.

ROCK COUNTY.

Members of Rock County Society held their first Fall meeting at Beloit, Sept 26, at the Y. M. C. A. at 6:30 o'clock. Special music and other features were arranged in addition to the main speech by Dr. J. B. Herrick, Chicago, who talked on "Some Phases of Heart Diseases."

TREMPEALEAU-JACKSON-BUFFALO

A meeting of the Trempealeau-Jackson-Buffalo Medical Societies was held at Whitehall, Sept. 28.

NEWS ITEMS AND PERSONALS

A summons making Dr. R. B. Cunningham defendant in an action brought by the State of Wisconsin ex. rel., through Attorney General William J. Morgan, and Deputy Attorney General Ralph M. Hoyt, seeking judgment in annulling the appointment of Dr. Cunningham as a member of the Wisconsin State Medical board, was filed in the office of the clerk of circuit court for Chippewa county Aug. 25. The case will be tried at Chippewa Falls at the October term of the circuit court. The statutes require that the Governor must appoint "allopathic" members to the Board of Medical Examiners from a list of ten names submitted by the State Medical Society. Nearly a year ago Governor Blaine appointed Dr. R. B. Cunningham of Cadott to succeed Dr. Oscar Lotz. In doing this Governor Blaine ignored the statutes, as Dr. Cunningham's name had never been submitted to him. His attention was called to the matter by the State Medical Society, but he has steadfastly refused to make an appointment according to law. Attorney General Morgan has held the appointment illegal, and holds that Dr. Lotz is still the legally qualified member of the Board, inasmuch as no successor has been appointed. The profession of the state is indebted to both the Attorney General and to Dr. Lotz for carrying this matter to the courts.

Dr. L. E. Youmans of Mukwonago has been engaged by the University of Michigan to do special work in the department of internal medicine.

—Dr. Galen Nedry has sold his interest in the Medford clinic to Dr. Deitrich of Iowa,, who assumed ownership Oct. 1.

Dr. Roy M. Greenthal, formerly of the Pediatrics Department, University of Michigan, has announced the opening of an office at 141 Wisconsin St., Milwaukee.

Dr. Charles H. Stoddard, 141 Wisconsin St., Milwaukee, has announced that he has limited his practice to internal medicine and diagnosis.

At the staff meeting of the Holy Family Hospital at Manitowoc, Oct. 3, the following doctors were elected as an executive committee for the ensuing year: H. W. Aldridge, John E. Meany, W. G. Kemper, R. C. MacCollum, and Erwin C. Cary. President, H. W. Aldridge; Vice President, J. E. Meany; Secretary, Erwin C. Cary.

Several applications from osteopaths who are not licensed medical practitioners but who have asked renewal of permits to prescribe liquor will be investigated, according to James A. Stone, federal prohibition commissioner for Wisconsin, who said such applicants were given permits previously because, in the rush of business, there was no time for investigation and decision as to merit. He said, however, that there will be no prosecution.

The Henry Uihlein residence at 431 Galena Street, Milwaukee, has been sold to the Sisters of St. Catherine, of Racine, to be remodeled into a hospital.

A thoroughly modern school of nursing was opened Sept. 21 at Theda Clark Hospital, Neenah, under the direction of Miss Ellen Stewart, hospital superintendent.

Dr. Chester M. Echols of Milwaukee left August 30 for a three months' stay in Europe.

Contracts have been let and work started on the building of a new State Hospital in Madison, which is to be conducted in connection with the Medical school of the University of Wisconsin, and will furnish medical care for the crippled children and other unfortunates throughout the state recommended for treatment by county nurses and other local officials.

The building, the foundation of which is already completed, will cost about $765,670. The contract calls for completion in two years.

When the building is completed the present medical courses will be developed into a standard four-year medical school centering in the state hospital. The Bradley Memorial hospital which is now being used for the care of crippled children will be converted into a laboratory for research experiment for which it was originally planned.

Dr. John Bowers, of Lake City, Minn., has located in River Falls.

Dr. E. H. Rogers, a recent graduate of Rush Medical College has opened an office in Hartford. Dr. Rogers comes directly from an internship at Columbia Hospital, Milwaukee.

Dr. George Hathaway of Superior has opened an office in Chetek.

Dr. Harold Axley of Chicago has formed a partnership with Dr. A. A. Axley of Washburn and will be interested with his brother in the new hospital in that city.

The state association of graduate nurses held its annual conference at Oshkosh, October 4-6. Inspection visits to the hospital for the insane and the Tri-County Tuberculosis Sanatorium at Winnebago were made.

Dr. F. H. Powers, formerly of Bucyrus, Ohio, has associated with Dr. W. L. Wentzel of Beaver Dam.

DEATHS.

Dr. A. J. Morse, well known physician of Oakfield. died at his home September 4.

Dr. W. N. Daniels, of Mosinee, one of the oldest practitioners in the Wisconsin River valley, and a veteran of the Civil War, died at Madison. Sept. 18.

Dr. Walter H. Neilson, 65 years old, who died as the result of a cerebral hemorrhage, following an illness of only twelve hours, marked the passing of one of Mil-

waukee's most prominent physicians, a founder of Trinity hospital, one of the organizers of the Milwaukee Medical college and a man who devoted his entire life to the service of those around him.

Dr. Neilson was a member of the Wisconsin Academy of Medicine, Milwaukee County Medical society, Wisconsin State Medical society, American Medical association, Tri-State Medical society, and St. Andrew's society.

In the light of current comment on the alleged decline of the medical practitioner of the old school, the career of Dr. Walter H. Neilson stands out as a shining example of the type of doctor who was a compound of science, charity and personal friendship.

He infused into his life work and daily routine the quality of human interest that made his name beloved by patients and students. When he took up his practice in Milwaukee forty-one years ago, he at once made the most of such opportunities as he found in the city at that stage of its development, and perhaps opportunities for the personal element in medical practice were more numerous before the advent of modern specialization. It is recorded that he soon became known among the poor as one of those medical Good Samaritans who seem to be wearing out their life in the service of mercy and yet miraculously live to a ripe old age.

The same genial personality and fatherly interest, by the testimony of his students, was radiated in the classroom. As dean of the medical college which is now part of Marquette University, Dr. Neilson had a large share in shaping the careers of many medical men whose remembrance of his professional and personal guidance will long survive him as a living monument. His name will always be associated with the school and the hospital of which he was one of the founders.

The death of a man who crowded double the amount of an average life's work into his career and who diffused kindness and sympathy wherever he went is deeply mourned by the community.

MARRIAGES.

Miss Sophia Feld, Milwaukee, to Dr. Alfred H. Goodsitt, Milwaukee.

ASSOCIATION NEWS

MEDICAL WOMEN.

A joint meeting of the Medical Women of Wisconsin, Illinois and Iowa will be held at the time of the Tri-State Medical Meeting at Peoria, Ill., on Oct. 30, 31, Nov. 1 and 2, 1922. The annual meeting of the Wisconsin Society was postponed until the Tri-State gathering at Peoria as it was felt that many of the Medical women would wish to attend the latter meeting. A committee is working out a program which will be sure to be of especial interest to the Medical women, and it is the intention to make this a more pretentious and important meeting than any previous gathering of these societies.

The annual election of the Wisconsin Society will take place immediately preceding the general meeting. The present officers are Edith McCann, M. D., Milwaukee, president; Luella Axtell, M. D., Marinette, vice-pres.; and Sarah Garrett-Bangsberg, M. D., La Crosse, sec.-treas.

It is urged that all the Medical women in the states named put up the "Doctor out" sign and come. Further details regarding program and arrangements are to be announced by mail direct.

CORRESPONDENCE

Milwaukee, Wis., 9/27/22.

To the Editor:

I just read an article in the August number of the WISCONSIN MEDICAL JOURNAL, the title of which is *"Memory Defect of Korsakoff Type, Observed in Multiple Neuritis Following Toxemia of Pregnancy,"* by Frank A. Ely, M. D., Des Moines, Iowa, when my attention happened to be drawn to an invitation which our editor probably coincidently placed in a parallelogram immediately preceding the article.

Somehow or other it appears to me that this article with the above title has many inconsistencies and I am surprised that it passed censure of our editor as well as that of the program committee of the Tri-State Medical Society.

I will not take up space here with quotations from the body of Doctor Ely's paper as the reader can refresh his memory by rereading it in the August number; but I will quote some of his conclusions, and those who have read his paper, I believe will agree with me that it is invidious in its teaching, inconsistent in its conclusions and erroneous in some of its medical nomenclature—although in all fairness to the author the latter may or may not be due to typographical errors. He says: "In conclusion I wish to emphasize the following salient clinical facts:

I. That toxic multiple neuritis is a frequent sequel to hyperemesis gravidarum.

II. That multiple neuritis may develop during gestation or in the puerperium without any dependable evidence of underlying infection.

III. That a mild psychosis of the Korsakoff type is very prone to occur in this type of multiple neuritis.

IV. That therapeutic abortion is perhaps too long deferred in many cases of hyperemesis and is the best remedial measure, and the most sure means of preventing multiple neuritis.

V. That the Korsakoff psychosis was recognized as a very common accompaniment of multiple neuritis fol-

lowing hyperemesis gravidarum, long before Korsakoff affixed his name to the same syndrome which he observed in alcoholic neuritis."

Now, as to the author's first and second "salient clinical facts", if the reader will go back a little farther on the same page he will read Doctor Ely's statement: "In cases 1, 2 and 4, although there was abundance of evidence of profound toxaemia before abortion, the symptoms of neuritis did not occur until a short time after the uterus was emptied."

I will say in passing that this term or phrase "emptying the uterus" as well as the phrase "terminating pregnancy" sounds much more innocently than "destroying the foetus" or "killing the child". Regarding his fourth "salient clinical fact" I cannot see where it was "the best remedial measure or the most sure means of preventing multiple neuritis" in the three cases where he resorted to it; for he says himself that the symptoms of neuritis did not appear until after abortion was done.

Now regarding his fifth "salient clinical fact", we probably all admit that Korsakoff's psychosis was always a very common accompaniment of multiple neuritis—especially alcoholic multiple neuritis even before he described this syndrome; but I doubt very much if we all agree that multiple neuritis, syndrome and all, is a "very common accompaniment" of hyperemesis gravidarum.

Hyperemesis is of such common occurrence in pregnancy that if all the obstetricians in the world were to take Doctor Ely's teaching seriously—as well as that of his little god von Hosslin—they would be kept so busy committing abortion that they would never have time to attend to a real case of confinement if some poor mother should happen to be fortunate enough to get by and run on to full term.

I believe if Doctor Ely had published his paper under the caption "*Memory Defects of Korsakoff Type, Observed in Multiple Neuritis Following Therapeutic Abortion*" it would have been more consistent.

A. J. Caffrey, M. D.

1204 Grand Ave.

Des Moines, Ia., October 10, 1922.

To the Editor:

In response to the criticisms of Dr. Caffrey, relative to some of the statements and conclusions voiced in my article published in the August issue of the Wisconsin Medical Journal under the title "Memory Defect of Korsakoff Type, Observed in Multiple Neuritis Following Toxaemia of Pregnancy", I will say that the offensive tone of the Doctor's communication tempted me to ignore it, but a sense of justice and a desire to promote the welfare of the medical profession and the clientele it serves, prompts me to say that if I have erred in any way in the handling of my subject, it is owing to the fact that as a consulting neurologist I may have been led, by a familiarity with the type of cases reported, to believe them more common than they would appear to be to the general practitioner. It so happened that all of the cases reported occurred in the practices of well trained general practitioners, and with the exception of one instance, none of them had any definite conception of the gravity of the situation which confronted them. It is therefore fair to assume that many of these cases go undiagnosticated,—in Wisconsin as well as in Iowa. Those who did me the courtesy to read my article will notice by the title that I was dealing with a complication of toxic vomiting and not considering the effects of mild gestational vomiting due to any other cause.

I have found it a safe rule in the practice of medicine, to observe nature's methods of working out her own salvation in the presence of disease, and I have observed in the toxaemia of pregnancy, spontaneous delivery is quite common and that recovery is frequently initiated after the products of conception have been expelled. To argue that nature should never be anticipated would be folly, since we would then be obliged, in order to be consistent, to do away with anti-diphtheretic serum and a number of other remedial agents and procedures, the value of which are beyond controversy. From the trend of Dr. Caffrey's critique my readers might be led to believe that I am a heinous monster waging an unscrupulous warfare against the unborn, whereas I have simply attempted to assist in familiarizing the medical profession with a very grave sequel of toxic vomiting of pregnancy, which, when all other scientific means have failed in its prevention, can, I believe, be avoided by a judicious resort to therapeutic abortion.

The physician who governs his practice by a professional or ecclesiastical "rule of thumb" rather than by his conscientious, scientific, judgment, and that of his consulting professional brothers, is apt to fall into error. In conclusion I must say it is to be hoped Dr. Caffrey is as virtuously quixotic in conserving the interests of his viable patients as he appears to be in championing the cause of the yet unborn.

Very truly,
F. A. ELY.

Editor Wisconsin Medical Journal,
Wauwatosa, Wisconsin.

Dear Sir:

When the A. M. A. Journal comes to my desk on Saturday mornings I usually turn to the "Tonics and Sedatives" the first thing; when our State Journal drops in regularly about two or three weeks behind time my first interest goes to the Business Side of "Physician's Life." That doesn't sound very scientific but it's the truth just the same. The articles on investment written by the banker are written in a splendid style, and carry a message of real value to the members of our profession.

Following your suggestion that the Journal pages be considered our Forum, and with the hope that others may join in, am going to beg a bit of space to add my testimony to the advice of our banker friend.

While in no sense a business man, I have been fortunate insofar that from some source or other a little business is hidden away in one corner of my make-up.

(For instance, I have been sending out my statements to my patients every month for the past ten years, and have found it good business.) This strain of business is not hereditary for as far back as I am able to trace my ancestral tree it has been loaded with financially poor professional men—physicians and pharmacists predominating. I believe an experience of very early days is largely responsible. The paint on my shingle was still wet when two very good medical and personal friends died rather suddenly. Both physicians had enjoyed exceptionally good practices for several years, but when their estates were probated, nothing was left to show the results of their work.

In the case of one, the automobile had to be sold to pay outstanding accounts, while in the other case the widow had to return to her parents and find a position to support her children. While I did not expect that ten years of practice would build a fortune, I was shocked to find out that neither of these splendid men had given the future so little thought.

These two close contacts made such an impression upon me at that time, that I grasped the first opportunity which I thought would force me to save a bit, that presented itself. This opportunity took the form of a representative of a local Trust Company selling bonds. How on earth he happened to drift into the office of a young medico to sell a bond I never found out. I can't imagine that he came with that intention, but if he did so, he certainly showed either an utter lack of experience or very poor judgment. Nevertheless in spite of his poor claims, this salesman made the most of his opportunity and before he left he had induced me to give him almost my entire fortune of fifty dollars as part payment on a five hundred dollar bond. This little piece of business I have always considered the one best investment I ever made. Since that time, eighteen years ago, I have never been out of debt, largely due to the fact that this bond salesman never gave me a chance. As soon as one bond was paid for he was Jerry on the job with another.

Several years ago when in need of money to build a home, this little package of security which had grown almost automatically, certainly came in very handily.

No, I am neither a bond salesman nor am I interested in a business selling bonds, but I do appreciate the advice that is being handed out by your banker friend. More power to him.

Yours truly,
A Member.

BOOK REVIEWS

Ophthalmoscopy, Retinoscopy and Refraction. By W. A. Fisher, M. D., F. A. C. S., Chicago. 240 Illustrations including 48 colored plates. Published by W. A. Fisher, M. D., 31 No. State St., Chicago. 1922. Price $4.00.

This little work of 218 pages makes comparatively simple a subject usually made most difficult in the standard texts. The author believes that this work should be done by the general practitioner; that the requirements of the necessary practical and theoretical knowledge is in the reach of all, and has written this work for the purpose of giving to the general practitioner a book which will present the subject in simple language. It is beautifully printed with an unusual collection of splendid illustrations, the color plates being unexcelled. It admirably fills the purpose for which it was written.

Hughs' Practice of Medicine. 12th Edition. By R. J. E. Scott, M. D. 63 Illustrations. Philadelphia. 1922. P. Blakiston's Son & Co.

Hughs' Practice has held for many years a unique place in the accepted texts on medical practice and each edition has met with the approval and praise of the medical profession. The principles which have been followed in the former editions have been adhered to in the 12th, and the subject matter has been brought up to date. The general arrangement of the first part has been modified, the specific infectious diseases being subdivided into four groups. New sections added include "Trench Fever"—"Notifiable Diseases"—"Acidosis" — "Functional Activity of the Kidneys" — "Disorders of the Salivary Glands"—"Classification and Treatment of Mental Diseases"—etc., etc. The final scope of the work remains, of course, elementary, and it is still kept within the limits of the small manual. It is to be regretted that the author has not used a later classification of mental diseases.

Transactions of the College of Physicians of Philadelphia. 3d Series. Volume 43. 1921.

This is a work of 558 pages and presents in book form the papers read before the college from January to December, 1920, inclusive. It is published in part by the income derived from the Francis Dyeth Fund. It is always a most valuable collection of the current Philadelphia literature.

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INVESTMENT SECURITIES

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was thought best that to obtain full cooperation they must be kept in bed during the period of the test. A trained attendant weighed the food and collected all specimens.

We feel that because of our desire to maintain a constant equilibrium by placing the cases in bed and maintaining an even temperature in the wards also having a highly trained man in constant attendance who kept detailed accounts of all peculiarities of each patient, that our results are all the more valuable.

As Mosenthal and Lewis, in a later article,[4] advocated, the patient was placed on a diet for two days before any determinations were made. The reason for this is that the diet may be entirely different from that to which he is ordinarily accustomed and again, a basal level must be reached before determination can be made. This caution we wish to emphasize. It was our experience that if a patient is placed at once under test conditions the previously uncontrolled diet showed its effect upon the test. So that it was our practice to place each patient on the test or controlled diet two days previous to any determination.

Obviously, this latter test requires a hospital and a diet kitchen, but so much valuable information can be derived from it that it fully warrants all this procedure. This holds true for the study of any case of possible nephritis, not necessarily syphilitic in origin, for after all the latter type is not so very common.

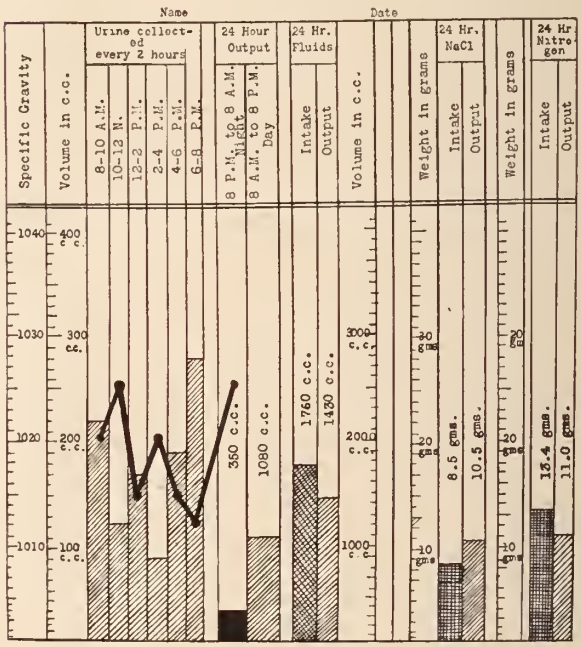
No attempt will here be made to discuss either of these tests except as they have a bearing upon this work.

Many extra renal factors have been found to cause variations in the nephritic test meal, among which are pyelitis, pyelonephritis, hydronephrosis, polycystic kidney, cystitis, hypertrophied prostate, chronic passive congestion of the kidney due to cardiac disease, severe anaemias, diabetes insipidus, and cardiac disease especially associated with decompensation. It must be recalled, however, that every one of these conditions is rather an easily determinable clinical entity. It is commonly known that a diseased kidney loses its power of concentration and polyuria and nocturia result. The term concentration is here used in the sense that in health the kidney can excrete large amounts of solid waste irrespective of the fluids present. In disease the kidney soon loses this power and requires almost a fixed amount or an excess of fluid to eliminate the solid wastes. This is probably one of the earliest manifestations of a beginning nephritis and one of the reasons why the Mosenthal test is considered so desirable.

In addition the following facts have been accepted as being present in the nephritic test diet of a normal individual. These are demonstrated in Chart No. I.

CHART No. I.

Normal Individual.



Specific gravity varies inversely as the two hourly output. Specific gravity varies at least 10 points. Specific gravity of night urine is over 1.018.

Two hourly output during the day shows diuretic effect following each meal. Night urine is less than 700 c.c. Total fluid output about 300-500 c.c. less than intake (this due to perspiration and moisture exhaled through lungs). Sodium chloride output slightly in excess to intake. Nitrogen output slightly less than intake due to replacement for nitrogen catabolism.

Of our 16 cases studied, 13 were suffering from syphilis of the central nervous system, that is, one case of Tabes, two cases of taboparesis, three cases of meningo-vascular syphilis and seven cases of general paresis, three cases of generalized syphilis clinically latent, serologically positive. The ages of our patients ranged between 20 and 56 years.

Two cases were treated with neo-arsphenamine for three courses, two cases were treated with silver arsphenamine for two courses. The remaining eleven cases were treated with other arsenicals,

[4]Journ. Am. Med. Ass'n. 1916, 67, 933.—Mosenthal and Lewis:

chiefly tryparsamide, or A-63, a drug developed at the Rockefeller Institute and found to be of great value in experimental syphilis and trypanosomiasis. In every case mercury was given simultaneously with the arsenic, that is, arsenical treatment on Tuesday and mercury on Friday.

The courses of treatment lasted from six weeks to six and one-half months. Usually eight doses were given in a course. The patients averaged three courses a year.

In three cases continuous treatment was instituted over a period of six and a half months without interruption. They received 3 gms. of A-63 and one grain of mercury salycilate every week during this period. It is interesting to note that even after this intensive and prolonged treatment they continued to have normal kidney function.

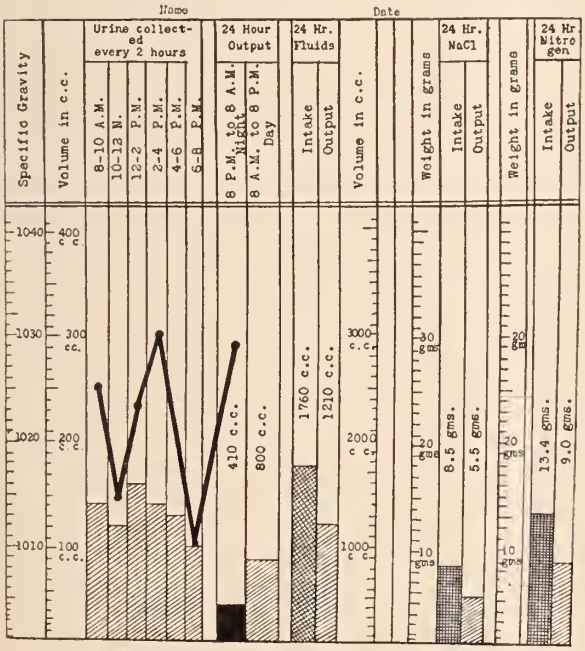
Space does not permit of a detailed report of the results of all our work covered over this period so that the following charts have been made to demonstrate essential facts in our work which are a composite of the entire group of cases throughout this period.

We had no cases of so-called "transient albuminuria" usually seen at the time of the eruption which likewise is common in the acute exanthemata; nor had we any cases of acute nephritis. We had three cases of mild chronic nephritis, two of which recovered under treatment. The two charts will serve to show our almost constant findings within forty-eight hours subsequent to the treatment with arsenicals. After this period in practically every case the Nephritic Test Diet again approximated the normal.

This distorted abnormal picture if taken alone, on a given individual immediately following treatment, is not evidence of permanent renal injury. We are convinced it is merely the immediate effect of the remedies employed. After forty-eight hours the kidney function returns to normal and in some cases where there presumably is a syphilitic involvement of the kidney, the elimination is actually better than it was previously.

CHART No. II.

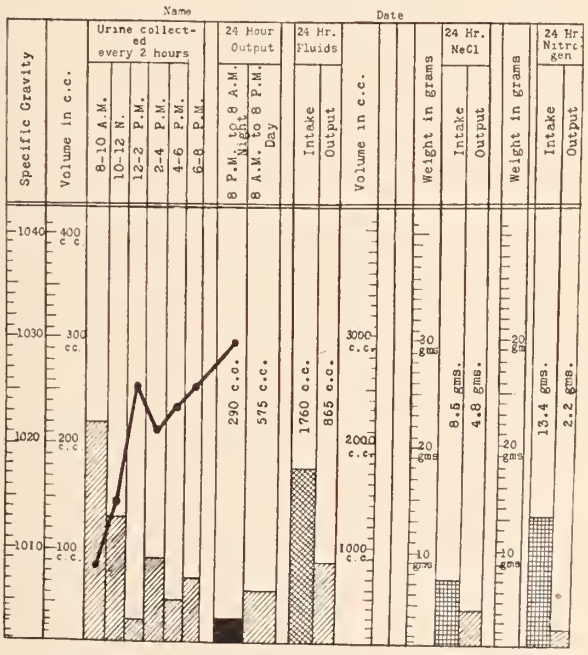
Day following Arsenical Treatment.



A rather fixed two hourly output. A marked variation of specific gravity in a fixed volume output. The normal inverse ratio is destroyed with bizarre "spiking" of Sp. Gr. Retention of salt and nitrogen which is more than usually occurs.

CHART No. III.

Day of Drug Administration.



Marked decrease in water, salt and nitrogen elimination. High and fixed specific gravity.

SUMMARY.

1. In all, 16 cases are included in this work covering a period of one year during which time 900 Nephritic Test Diets and about 300 Phenolsulphonephthalein determinations were made. In addition over 800 cases of syphilis in all its mani-

festations were studied less intensively although our interests were focused upon the kidneys.

2. In each case studied one week of preliminary kidney function determinations were made which included daily urine analyses, Nephritic Diet Tests, Phenolsulphonephthalein tests, daily blood pressures and eye ground examinations.

3. Treatment was institnted consisting of some arsenical combined with mercury in courses varying from six to twenty-six doses of each, some patients receiving one, others several of these arsenicals during the course of the year.

4. During each week of treatment throughout this period kidney function tests and complete urine analyses were made.

5. Three cases showed a mild grade of chronic nephritis to begin with. Two of these cases responded to treatment and after the second course of treatment continued to have normal kidney function tests and normal urine analyses. The third case, a man of 56, when treated with another arsenical showed definite impairment of renal function and treatment was discontinued. Several weeks later his functional tests showed improvement. In such a case we continue with mercury alone and eliminate all arsenical medication.

6. Three of our cases on whom preliminary studies were made were treated weekly with three grams of tryparsamide and one grain of mercury salycilate over a period of six and one-half months continuously and showed normal kidney function tests at the end of this intensive treatment.

7. The day of and the day following the administration of the arsenical drug, the Mosenthal Test showed most unusual pictures. The inverse proportion between specific gravity and the two hour volume output was entirely destroyed. The bizarre peaking of the specific gravity in a rather fixed volume output was the most constant and striking picture seen. Other cases responded with a marked retention of water, salt and nitrogen on the day of drug administration simulating a picture of terminal odema only the next day to have a picture of a rapidly compensating heart throwing off most of the water, salt and nitrogen stored up on the previous day.

8. The phthalein excretion in nearly every case shows a definite decrease of the dye eliminated the day following drug administration only to resume a higher level after forty-eight hours.

9. With these distorted findings in the functional tests the urine on analysis remained perfectly normal chemically and microscopically.

10. Although over 300 blood chemistry determinations were made during our study which included Blood Nonprotine Nitrogen, Blood Urea, Blood Uric Acid, (Blood Creatinin), Blood sugar, Ambard's Coefficient, and we found quite consistently that during the period of treatment the patient showed an increase in the blood creatinin, in view of Behre and Benedict's[5] very recent views discrediting the actual presence of creatinin in the blood, we feel that until this controversy has been settled, this field of investigation should be studied further and no conclusions are warranted at present.

CONCLUSIONS.

Although much criticism has been leveled against kidney function tests commonly employed we feel justified in stating as follows:

1. All cases of syphilis before treatment should be carefully studied to determine whether or not the kidneys are functioning properly.

2. Many cases of syphilis will be found to be suffering from nephritis of varying degree which will clear up under anti-syphilitic treatment, demonstrating probably the syphilitic origin of that nephritis.

3. These kidney function tests have the apparent advantage of disclosing kidney embarrassment before the usual signs of albumin and casts are demonstrated in the urine. We, therefore, advocate the use of the kidney functional tests, before, during and after drug administration. If it is found that the drug administration increases the renal abnormality it then becomes a matter of selecting the least irritating of the anti-syphilitic measures.

4. In a borderline case whose renal mechanism might easily be injured by the larger doses of a drug generally employed, a careful study of the renal function will disclose the amount of drug that can be tolerated without such injury.

5. Although the actual percentage of cases which develop kidney lesions resulting from anti-syphilitic treatment is small, it is still very essen-

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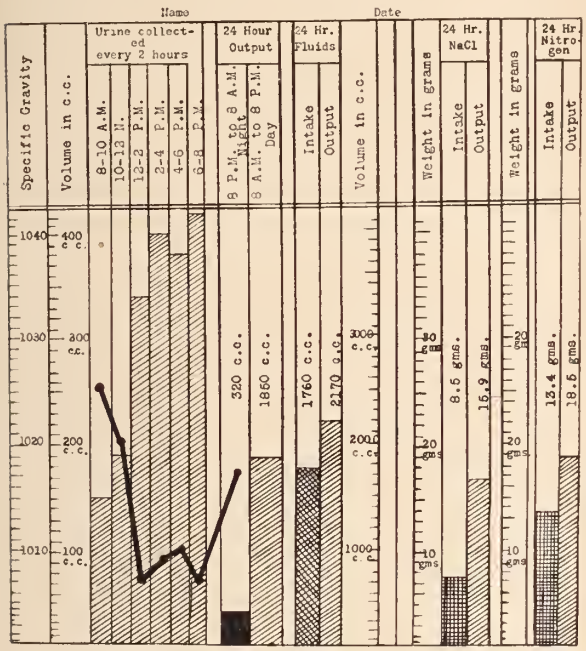
[5]Behre and Benedict: Journ. Biol. Chem. 1922, Vol. LII, No. 1 P. 11.

tial to avoid such disaster and it is strongly felt that the study as outlined above is imperative.

6. The most important finding not observed before to our knowledge is that a kidney function test made immediately after drug administration cannot be accepted as evidence of kidney impairment.

CHART No. IV.

Day following drug administration. Chart to be compared with No. III.



Marked increase of water, salt and nitrogen elimination. Demonstrates that the fluids, salt and nitrogen stored on the previous day are being eliminated.

THE VALUE OF TRANSUTERINE AND TRANSABDOMINAL GAS INFLATION OF THE FEMALE PELVIS WITH CARBON DIOXIDE.*

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Pneumoperitoneum of the abdominal organs has been used extensively both abroad and in this country but inflation of the female pelvis for the diagnosis of obstetric and gynecologic conditions is a much more recent and limited procedure. Its value as an aid to more accurate diagnosis is being so rapidly appreciated by diagnosticians that it is now used in the majority of clinics throughout the United States. This is especially true of the transuterine phase of the procedure. Stein and Stewart as well as Weber early appreciated the possibilities of inflation of the abdomen with oxygen when combined with roentgenography. Rubin in his investigations on sterility has demonstrated how the patency of the Fallopian tubes may be determined by passing gas into the abdomen through the uterus. In 1920 Doctors Peterson and Van Zwaluwenburg impressed with the possibilities which these two methods held combined transuterine and transabdominal inflation of the pelvis with roentgenography. During this period it has been the essayist's good fortune to have been a member of Dr. Peterson's staff and to have seen this new method of diagnosis perfected. Through Dr. Peterson's generosity the essayist has been given the opportunity to summarize the results so far obtained and to illustrate by the aid of lantern slides the apparatus and technic used and roentgenograms taken in about 500 cases of gas inflation.

So firmly have we come to rely upon this method of diagnosis, that it has become necessary to establish an inflation clinic. Any patient whose diagnosis is in doubt after having had the usual history taken and examination done is referred to this inflation clinic for further examination. Likewise, women complaining of sterility are subjected to at least the transuterine method of inflation. Then after due consideration of the roentgenographic findings, the patient is given a final and complete diagnosis of her pelvic condition. In this way gas inflation acts as a check on the already well established methods of diagnosis.

From the start it was quite obvious that the cooperation of an expert roentgenologist must be obtained, since the average obstetrician and gynecologist has had only a limited experience with radiography. With his aid it has become possible to take and interpret plates of the pelvis. Of course, the obstetrician and gynecologist knowing the history and findings of an examination has an advantage over the roentgenologist who usually knows very little of pelvic conditions. Even so it is still our custom to accept for our records the roentgenologist's interpretation of the film or plate uninfluenced by our opinion.

The apparatus and instruments necessary for transuterine and transabdominal inflation and the

*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 7, 1922.

roentgenographic outfit for the taking of films have been described by Dr. Peterson. Briefly they consist of a tank of ordinary commercial carbon dioxide to which is attached a pressure reducing and needle valve to control the outflow of gas. To answer the invariable question, the reducing valve can be secured from the Bishop Babcock Company, Cleveland, Ohio. To this is connected by rubber tubing an inverted 25 c.c. siphon flow meter which measures the amount of gas passing into the peritoneal cavity. A mercury or spring manometer to gauge the pressure at which gas is entering the uterus is attached to the siphon flow meter. For the introduction of the gas into the uterus and to prevent its regurgitation, a Keyes Ultzman metal uterine canula with rubber stopper is used. This latter apparatus can be obtained from E. Machlett and Son, New York City. An ordinary large calibre lumbar puncture needle is used for the transabdominal introduction of gas. The stereoscopic roentgenographic films are taken by means of a Coolidge portable unit operating on an ordinary lamp circuit. An eighteen inch square of opaque fabric with a six and one-half inch circular hole cut out of its center is laid on the patient's buttocks and serves as a diaphragm. Double screened films are used and the exposure varies from 14-20 seconds. Sterile rubber gloves, towels, and picric acid are used as in any surgical procedure.

Transuterine inflation in the majority of cases is the one routinely used. Naturally the determination of the patency or non-patency of the Fallopian tubes is an important part of the diagnosis in all cases of pelvic inflammation and especially in cases of sterility. The general practitioner can use this method of diagnosis most advantageously if certain common sense precautions be used. It is simple and free from danger if the following rules are observed. All instruments used should be sterilized by boiling and introduced under aseptic conditions. The vagina and cervix as well as the abdominal wall depending on the route used for the introduction of the gas should be thoroughly cleansed by the liberal use of picric acid. No uterus with profuse purulent discharge of the vagina or cervix is inflated by the transuterine route. Likewise the presence of pregnancy, menstruation or any bloody uterine or vaginal discharge is sufficient indication to abandon this method of examination or to substitute the transabdominal method. Cases with acute pelvic inflammatory disease should not be subjected to gas inflation and roentgenography. The question which naturally arises in the minds of those inexperienced with transuterine inflation is the possibility of setting up peritoneal irritation or even peritonitis by forcing septic material from the tubes into the peritoneal cavity. Experience in over a thousand cases reported by Rubin, Ward, ourselves, and others shows that in properly selected cases there is no such result. Circulatory lesions and pyrexia from any cause are also contraindications to gas inflation.

The method of procedure for the transuterine inflation has been described so frequently that merely the essentials will be mentioned in this paper. Of course all cases will have been examined according to the usual routine and in the cases of sterility all other causes for that condition will have been exhausted. The patient is placed in the Sim's position and cervix exposed by means of a Sim's speculum. The anterior lip of the cervix is grasped with a double tenaculum forceps. The uterine canal is sounded for its direction and then the intrauterine canula is introduced while the cervix is steadied by means of the tenaculum forceps. A snug fit is secured between the rubber stopper of the canula and cervix.

The gas must be escaping from the siphon flow meter at a rate not to exceed four pulsations per minute or in other words, when the outflow of gas is obstructed, it should take about fifteen seconds to raise the mercury column 100 mm. If the flow is more rapid than that the volume of gas escaping is so much greater than that which can escape through the small lumina of the tubes that the back pressure on the manometer will cause it to rise to 200 mm. of mercury or higher and indicate that gas is not entering the abdomen. With a slow rate of flow and with patent tubes the gas usually passes at a pressure of 80-100 mm. of mercury and then falls to 30-40 mm. and remains there throughout the inflation. Where there is an obstruction to the inflow of gas due to a stricture or thickening of the tubes or complete closure of one tube, the gas sometimes enters at a pressure of 180-200 mm. of mercury and occasionally only after six or eight attempts. Therefore, if necessary, frequent attempts are always made to force the gas through the uterus and tubes.

If there is no leakage of gas between the cervix and canula as elicited by a lack of gurgling in the vagina and the manometer reading remains below 200 mm. of mercury, gas is entering the pelvis. Further evidence of the patency of the Fallopian tubes is a sensation of pressure just above the symphysis or right lower quadrant after 200-300 c.c. of gas have been introduced. A sign almost pathognomonic of the patency of the tubes is the establishment of a subphrenic pneumoperitoneum. A fluroscope is not necessary for diagnosing that condition but can be determined by placing the patient in the sitting posture. The presence of the gas between the liver and diaphragm causes a most excruciating right shoulder pain.

Carbon dioxide is used instead of oxygen gas since it is rapidly absorbed by the peritoneum of the abdominal cavity. Therefore it is much less distressing to the patient than would be the case with a more slowly absorbed gas. In fact, carbon dioxide is taken up so rapidly by the blood stream that it is necessary when fluroscopic and roentgenographic work is done, to use a portable apparatus or else to inflate the patient in a regular roentgenographic room. It is possible to inflate out patients or office patients with carbon dioxide for diagnostic purposes and within 15-30 minutes have them leave the examining room free from pain or discomfort.

In the past it has been the opinion of the general surgeon and even the gynecologist that the patency of the Fallopian tubes could be satisfactorily determined by bimanual examination. If the tubes were neither thickened, adherent, or tender, they were considered normal and therefore patent. If further evidence of the condition of the tubes was desired, the patient was frequently subjected to an exploratory laparotomy and the lumina of the tubes probed with a filiform bougie. The filiform can usually be passed to the isthmus of the tube, the most common site for strictures and stenosis. But from that point on, the assumption must be made that it is patent. Of course the bougie can be forced through to the uterine cavity, but who knows whether it passed through the natural channel or whether it established a false passage. Recently we have proven that neither one of these two methods of determining the patency of the Fallopian tubes can be relied upon. Many cases of apparently normal tubes diagnosed by bimanual examination and confirmed by roentgenography and surgery have been shown to be impermeable to even a small column of gas under pressure. The converse has also been proven that even with palpable thickening and enlargement of both tubes, gas may be forced through one or both tubes. It may be quite possible in this latter group of cases that the adhesions about the fimbriated extremity are broken down and in that way a previously non-patent tube made patent. At least that is the interpretation we have placed on cases of pregnancy following gas inflation in women who have experienced years of sterility From these few statements of facts it is quite evident that there are great diagnostic and therapeutic possibilities for transuterine inflation.

It has been stated that about 300 c.c. of gas or 12 pulsations of the siphon meter is all that is necessary for the establishment of the patency or non-patency of the Fallopian tubes. When, however, there is any suspicion that the pelvic organs are diseased or when the gas enters only after repeated attempts or under high pressure, about 1000 c.c. of carbon dioxide are introduced by either the transuterine or transabdominal route and stereoscopic roentgenographic films are taken. More than this amount is unnecessarily distressing to the patient.

The detailed technic of transabdominal inflation and roentgenography of the pelvic organs has previously been given. The essayist merely wishes to call your attention to the principle upon which this method of radiography is applied and to outline the characteristics of the various pelvic conditions which have been radiographed in the clinic.

With the patient in the modified knee chest position, inclined twenty degrees to the horizon and with the head lower than the feet, the gas gravitates to the highest level which naturally is the pelvis, and the intestines and omentum fall out of the pelvis. The uterus which is a free body except at its lowest point will hang freely suspended in the vertical position and a vertical ray entering through the outlet of the pelvis will be projected on a film at the inlet of the pelvis. The pelvic organs will be shown surrounded by gas. The uterus will show two cross sections. The one representing the body and the other the supra-cervical portion or isthmus. The other pelvic structures are easily recognized and their relative posi-

tions appreciated when observed in stereo. Naturally the bladder and the lower bowel should have been previously emptied so as not to obstruct the outlines of the more important pelvic organs.

The most characteristic picture is of a chronic bilateral salpingitis or salpingoophoritis. Here one finds the utero-vesical pouch unusually wide and the anterior portion of pelvis occupied by a large dense mass, of which the central part is obviously the fundus of the uterus. The posterior cul-de-sac is frequently partially or completely obliterated due to its closure by the prolapsed and adherent appendages. Adhesions of the bowel and omentum which commonly complicate pelvic inflammation are recognized by the fact that they do not fall out of the pelvis as they naturally should.

It is extremely interesting to realize that pregnancy as early as the fifth or sixth week is routinely diagnosed The signs upon which such a diagnosis are based are, enlargement laterally and a flattening in the antero-posterior direction of the isthmus. The isthmus is clearly and smoothly outlined and extends well out into the broad ligaments. The uterus itself is enlarged but its density is somewhat less than normal. The shadow is entirely homogeneous and outline uniform, smoothly rounded, giving the impression of an elastic bag partly filled with fluid.

Fibroids of the uterus show an irregular outline and the mass has a greater density than normal. A subinvoluted uterus may show a picture somewhat similar to pregnancy but the shadows are not homogeneous. Anomalies such as bicornate uterus have been demonstrated by roentgenography after they had been misinterpreted by bimanual examination. Ovarian cysts are recognized without difficulty.

CONCLUSIONS.

1. Transuterine inflation with carbon dioxide for the determination of the patency or non-patency of the Fallopian tubes in properly selected cases is not distressing to the patient and is entirely free from danger.

2. The patency or non-patency of Fallopian tubes can be determined only by the passage of gas through the uterus.

3. The apparatus for gas inflation and pelvic roentgenography is simple and inexpensive and the technic not at all difficult.

4. Pelvic pneumoperitoneum combined with stereoscopic roentgenography is a great aid to more accurate diagnosis of obstetric and gynecologic conditions.

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TRAUMATIC RUPTURE OF THE FEMORAL ARTERY WITH HEMATOMA.*

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Rupture of the femoral artery is not uncommon, because of its relation to the plevis just as it emerges from the abdominal cavity and the not infrequent traumatisms of this area. However, hematoma resulting from traumatic rupture of the femoral is rare and recovery still more rare, hence a report of a case will probably be of interest to the profession. Within an hour after injury this

*Read at a Staff meeting, St. Mary's Hospital, Milwaukee.

case was referred to the surgical service of Dr. W. C. F. Witte by Dr. M. Gallogly.

History: Mr. Joe K., white male, casting filer, age 17, enters hospital complaining of an injury to the lower portion of abdomen received in a motorcycle accident.

Family History: Mother dead, age 36, tuberculosis. Father, brother and sister living and well.

Personal History: He had diphtheria, age 10, recovery uneventful.

Present Illness: While riding a motorcycle for the first time, patient ran into a telephone pole and in falling from the machine hit his abdomen against one of the handle bars. He picked himself up and walked about 10 feet unassisted, using both legs. Within a few hours he was unable to use left leg at all.

Physical Examination: Patient has an irregular weak pulse, his skin is cold and bloodless but he is perspiring profusely. His respiration is shallow and irregular. He is in a semi-delirious state and answers questions, but seems to have lost the power of thought. He is nauseated, thirsty, restless and yawning, and apparently has attacks of syncope.

Head: Negative except for the remarkable size of the external canals of both ears which are large enough to admit the thumb of the patient's hand. Eyes dilated equally but react to light and accommodation.

Chest: Lungs resonant and no rales were heard. Heart: Size increased to left about one inch outside nipple line with area of dullness extending into axilla. At the apex there is a mitral post systolic murmur and a divided first sound. There is a palpable thrill. The rate is rapid but the rythm good.

Abdomen: Presents an unusual spherical mass about ten (10) inches in diameter, located in the left inguinal region, extending up onto the abdomen in the lower left quadrant and down over the left leg. This mass is apparently between the skin and muscles of the abdominal wall and is very firm, hard and nonpulsatile. The skin over this tumor is unbroken. The left side of the scrotum is swollen and the genetalia are slightly discolored on the left side. There is a flaccid paralysis of the left thigh and a spastic paralysis below the knee. On the inner side of the thigh there is marked hyperesthesia. Below the knee there is complete anesthesia. All voluntary control of the leg is apparently lost. Reflexes on the right leg are normal. Several observers reported pulsation in the popliteal space.

Laboratory Reports: On the day following injury the urine showed a ++ albumin, with red and white cells in each microscopic field. His blood was type four. The X-ray plate of the area showed no fracture of the pelvis or femur. The day following this there was still a trace of albumin and an occasional red and white cell in the urine, but this was entirely negative a week later. The blood count a week after injury showed 19,-200 leucocytes and 82% of these were polymorphonuclears.

Diagnosis: On entrance 7/22/22: Traumatic shock, hemorrhage beneath skin in left inguinal region. In pronounced shock, delirious.

Preoperative diagnosis 7/24/22: Hematoma in left groin, injury to blood vessels and anterior crural nerve. Shock.

Pathology found at operation consisted of a hematoma below the skin, laceration of all abdominal muscles, exposing femoral artery which was completely severed, and both proximal and distal ends of the artery contained a blood clot. There was no active hemorrhage. The nerve was evidently not lacerated. There was a laceration of the muscle and tissues between the bladder and the peritoneum. The left leg was paralyzed and there was a beginning gangrene of the foot.

Operation: Incision over the hematoma with ligation of the femoral artery. A drain was inserted into the pelvis between the bladder and the peritoneum.

Operative Diagnosis (2nd, 8/4/22): Gangrene of the foot and leg to within about three inches of the knee. Findings: Gangrene of the skin of the foot and leg, with irregular line of demarcation below the knee. There was oozing of blood from the cut surfaces everywhere, but the muscles were extremely anemic. No spurting vessels found.

Operation consisted of an atypical amputation about 5 inches below the knee joint. The skin flap was laid over the end of the stump but not sutured firmly.

Progress notes and temperature chart show that the patient entered with a temperature of 100.5,

pulse 140 and respiration 28, and that following the first operation there was a temperature of 1 or 2° never going above 101.8° Within twenty four hours of the accident the pulse dropped to 120 and varied between 120 and 90 for 10 days, since then remaining normal. The progress notes show that the leg remained warm above the knee, but the foot turned livid and was cold from the time of entrance to the hospital. A week after the accident there was still some sensation in the foot, but dry gangrene of the distal portion gradually extended up over the ankle to a line of demarcation below the knee.

Differential Diagnosis: In this case we have the history and findings immediately suggesting shock and hemorrhage. His weak pulse, cold, clammy, profusely perspiring skin, his shallow and irregular breathing, and semi-delirious state show that shock is present. His nausea, thirst, yawning, restlessness and syncope show general symptoms of hemorrhage while the finding of a local tumor mass which appeared rapidly after injury was suggestive of hematoma. As hemorrhage causes lowering of the blood pressure and this is a potent factor in shock the diagnosis of shock is strengthened. However the usual tumor mass which appears quickly in this area is hernia and before a diagnosis of hematoma can be made the possibility of hernia must be ruled out. The size and extreme firmness of the mass were atypical for hernia but the apparent pulsation of the popliteal artery was confusing and with no pulsation in the tumor mass the diagnosis of hematoma was doubtful. The general symptoms of hemorrhage however could not be disregarded and as there was no impulse on coughing, an entrance diagnosis of hematoma and shock was recorded.

Treatment: Upon entrance to hospital patient was conveyed to the operating room and given a hypodermic injection of morphine gr. ¼ for pain. After examination and diagnosis he was given Atropine sulphate gr. 1/150 and another gr. ¼ of morphine. He was then put to bed and packed in hot water bottles. After elevation of the foot of the bed he was given 750 c.c. of saline intravenously. The pulse returned full and strong during the injection of the saline, perspiration ceased and consciousness gradually returned. The following morning an attempt was made to save as much of the leg as possible from gangrene by means of hot blankets and local heat to the left leg. Operative treatment consisted of ligation of the artery on the second day after the accident and amputation on the 12th day after the accident.

Discussion: The first question suggested by this case is: should we operate during shock? If death without operation is inevitable, yes. However in this case hemorrhage had been stopped by limitation of the hematoma to the area below an *unbroken* skin surface. According to DaCosta it is never judicious to amputate during shock if it can be avoided, although he does say operate in cases where the trend is rapidly worse. Roswell Park says "shock is often alleviated by the prompt removal of mutilated limbs which when still adherent to the trunk seem to perpetuate the condition." As there was very little mutilation here, his argument could not be urged in this case, and it seems that if operation had been attempted during the severe shock present upon entrance to hospital, the patient would probably not have survived the operation.

A second question suggested by this case is, what is shock and what are the present ideas concerning treatment?

As a basis for discussion, shock can be defined as a general depression of the vital powers, arising from an injury or from a profound emotion, characterized by a fall in blood pressure and impaired respiratory and cardiac action. The exact mechanism of shock is still obscure but the many theories advanced in explanation of it at least insinuate a hopeful state of our ignorance. Probably one of the oldest theories is that of Henderson who considered shock due to acapnia i. e. deficiency of CO_2 in the blood. A second theory by Boise blames cardiac spasm followed by exhaustion. A third theory by Meltzer is less definite and explains shock as inhibition of bodily functions in general. A fourth theory by Keen & Mitchell but more recently by Crile states that shock is due to vasomotor failure which follows exhaustion or inhibition of the vasomotor mechanism. This theory is based on the most pronounced symptom of shock, i. e., fall in blood pressure. It is supposed that by overstimulation of sensory nerves the vasomotor center is exhausted or inhibited, the power of vasoconstriction is lost, hence peripheral arteries and capillaries are depleted or nearly emptied of blood, which is largely transferred to the veins, especially those of the splanchnic area. Crile limits the term *collapse* to the inhibition of the vasomotor center

and not to a depression of it as in shock, he uses the term "physiological block" for cocainization of a nerve trunk, and defines "phyliogenetic association" as the automatic association of subconscious fear. Then by doing a physiological block he proves that shock does not take place. He maintains, however, that noci influences, i. e., phylogenetic association, plus conscious fear, do result in associations even under the influence of an anesthetic and may cause shock. Still more recently Corbett (*J. A. M. A.*, Aug. 12, 1922), reviews the work of Malcomson and Seelig and of Lyon, who showed that in shock a general reduction of blood volume and a general vasoconstriction does occur. He adds that in shock the circulation is compensated just so long as vasoconstriction is maintained, when vasoconstriction does not compensate, fall of blood pressure and then collapse occurs. He adds further that epinephrine maintains the vasoconstriction and that when the residual reserve of epinephrine in the adrenal glands is finally used up as in traumatic shock, death occurs. In 350 animal experiments he finds that ether and trauma both cause shock, and that in either case the epinephrine content of the gland is found markedly diminished. He does not believe that epinephrine exhaustion *is* shock, but he does believe that when there is an exhaustion of that element there is nothing with which shock can be combated unless blood volume is increased by transfusion of blood, thus obviating the necessity of intense vasoconstruction. He also states that he does not believe that epinephrine should be given in shock except for the purpose of tiding over temporarily some grave crisis.

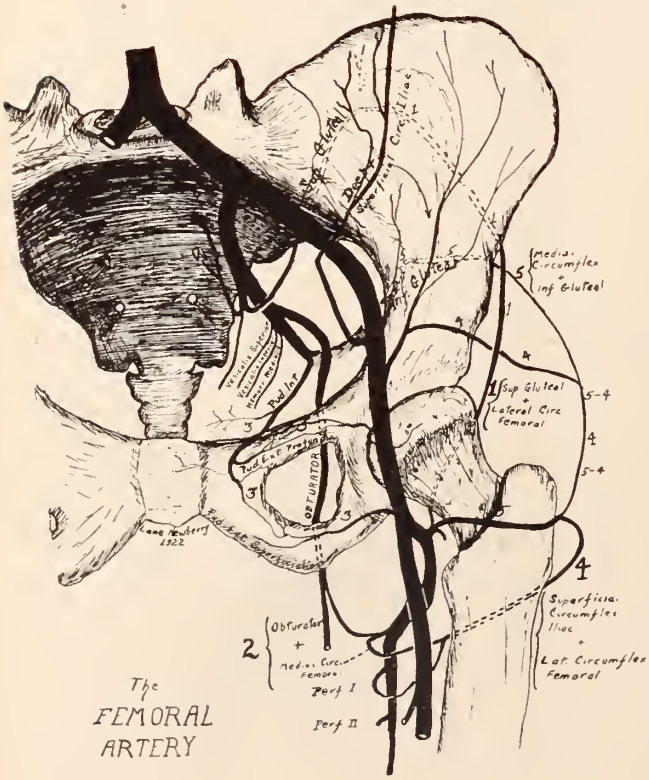
In the prevention of shock, reassurance and dissipation of fear in the patient are the first essential elements. To tranquilize the patient and use less ether, 1/100 of atropine and ⅛ gr. of morphine ½ hr. before operation is recommended. A hot enema will help to clear the splanchnic area of blood, while purging would be contraindicated because of the opposite effect. DaCosta believes that kidney involvements increase the danger of shock, especially if the total area eliminated is diminished in amount in the 24 hr. sample Crile claims that use of nitrous oxide lessens shock because cell activity is lessened by the decrease in oxygen in the cells. However, there is considerable difference in opinion concerning anesthetics in shock, and in the recent work of Corbett (*J. A. M. A.*, Aug. 12, 1922), it appears that all of them increase shock and that the difference between them is so insignificant that choice of anesthetics for use in shock is no longer essential. Retention of body heat is essential, and in shock every part of the body except the field of operation should be kept warm with hot blankets, hot water bottles or especially heated tables. Blood pressure can be watched throughout an operation, and any sudden fall is an essential index of the degree of shock. If shock occurs, suspension of operation may be indicated to prevent death of the patient on the table, or increased speed may make possible the completion of the operation.

Active treatment consists in raising the feet and lowering the head (to prevent cerebral anemia), unless cyanosis results, increase of body heat by all means available at the time, and if the blood pressure falls below 80 the use of saline or glucose solution by intravenous infusion or saline by hypodermoclysis or proctoclysis. Crile advocates 1 dram of 1/1000 adrenaline to the liter of saline for intravenous infusion, or a 1/50,000 solution given continuously from a buret. Transfusion of blood is indicated where hemorrhage has persisted and shock is prolonged. Stimulating hot rectal enemas, i. e., of coffee or whisky are useful. Strychnine and morphine are contraindicated, strychnine because it causes the heart to contract when the vessels and heart are incompletely filled, and morphine because respiration is already embarrassed and morphine slows it still more. The use of morphine is probably unavoidable where there is great pain, extreme restlessness, or internal hemorrhage. Where the skin is moist atropine is indicated. Other things of service are oxygen and artificial respiration, mustard plasters to heart, spine, and shins, and according to Cannon, pituitrin 10-20 minims intravenously or larger doses into the abdominal cavity to combat pooling of blood in the splanchnic area. Massage of the abdomen may assist in clearing blood from the splanchnic area and autotransfusion by bandaging the extremities may help to raise the blood pressure.

A third question suggested by this case is, what collateral circulation was established, and why did the line of demarcation form just below the knee? According to Gray's anatomy, the anastamoses after ligation of the femoral artery are: (1) The

superior and inferior gluteal branches of the hypogastric artery with the medial and lateral circumflex, and the first perforating branches of the profunda femoris; (2) the obturator branch of the hypogastric artery with the medial femoral circumflex of the arteria profunda femoris; (3) the internal pudendal branch of the hypogastric artery with the superficial and deep pudendal branches of the femoral artery; (4) the deep iliac circumflex branch of the external iliac artery with the lateral femoral circumflex branch of the arteria profunda femoris, and the superficial iliac circumflex branch of the femoral artery; and (5) the inferior gluteal branch of the hypogastric artery with the perforating branches of the arteria profunda femoris.

Since the diameters of these five anastamoses are relatively small the volume of blood that they could transmit would only be about 1/10 to 1/8 that of the femoral artery, the rate of flow through the extremity would be too slow to support life, and gangrene of the dry type would of necessity result. The line of demarcation formed just below the knee probably because of the free anastamoses about the knee joint, which permitted this area to receive a sufficient amount of blood to maintain the vitality of the parts. The atrophy of the leg since the amputation shows, however, that the leg is not yet receiving a blood supply sufficient to support all the tissues which were preserved by the operation.



Other questions suggested by this case are: Can pulsation of the popliteal artery be felt after rupture or ligation of the femoral artery? Should a skin flap be sutured in the presence of the findings as in this case? And finally, why was there an area of complete anesthesia, another of hyperasthesia, and both flaccid and spastic paralysis present?

In conclusion, then, this case illustrates a successful termination of a delayed operation in shock, and presents an unusual case of traumatic rupture of the femoral artery with hematoma.

THE RELATIONSHIP OF GENITO-URINARY DISEASES TO THE CHRONIC PATIENT.*

INCLUDING A REPORT ON THE TREATMENT OF CANCER OF THE BLADDER WITH HEAT.

BY BUDD CLARKE CORBUS, F. A. C. S.

CHICAGO, ILL.

Three diseases are occupying the attention not only of the medical profession but also the public in general. In order of their frequency, they are Venereal Diseases, Tuberculosis and Cancer.

The effects of Gonorrhea, Syphilis and Tuberculosis, whether localized in the urinary tract or elsewhere, as a cause of the chronically diseased patient are well known.

Numerous statistics are available showing the frequency of these infections and the great economic loss which they cause year after year. However, the methods available for their prevention and cure are well standardized and their ultimate elimination seems to be an assured fact.

Concerning the incidence of cancer as it affects the human race, you are all familiar. It is only within the last few years that we have begun to realize that cancer is on the increase and how absolutely uncertain are our methods of treatment. This applies not only to cancer in general but also

*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 8, 1922.

to cancer of the urinary organs, most particularly to cancer of the bladder.

By means of cystoscopy, ureteral catheterization, pyelography and cultural studies, the work of the urologist as a diagnostician has become the most exact of any specialist in the field of medicine.

There is no longer excuse for the silent kidney stone or the obscure tuberculous kidney, the hydro- or pyo-nephrotic kidney as a result of chronic focal infections of local origin, for surgery has triumphed over these conditions. It is not so, however, with cancer.

As neoplasms of the bladder are the greatest contributing factor as a cause of chronicity to the Genito-Urinary diseased patient, it is my intention to present to you a new method of treatment of neoplasms of the bladder, hoping thereby to lessen the suffering of those long affected and to cure those that come under treatment early

Diathermy in the Treatment of Tumors of the Bladder.

To the urologist, cancer offers the same baffling problem that it does to the general practitioner.

The methods available for the destruction of cancerous tissue are: Excision, X-ray, Radium, Fulguration or Desiccation and Thermic electrocoagulation. During the last few years, radium has moved into the position that was formerly occupied by the X-ray and methods adopted for the treatment of cutaneous cancer have been wonderfully successful.

However, it is not my intention to discuss the relative merits of excision, X-ray or radium in the treatment of cancer. Those of you who have had the most experience fully realize your disappointment.

Heat in Cancer.

In the attack on the cancer cell with heat, we must bear in mind that pathological cells offer less resistance to all destructive agents than do normal cells.

This lowered vitality of cancer cells dominates the whole question of the local treatment of cancer by heat.

"Sparking" and carbonization with the d'Arsonval current is not new to most urologists. However, few of us realized that the carbonization of the tissues by "sparking" was the one thing that prevented heat penetration. The fundamental thing in the use of heat, which has not been entirely understood by those of us who wish to make use of it in a successful way, is that the results depend on the dissemination of heat until the tissues known to be involved in the malignancy and those only suspected to be involved are fully infused. Percy says, "The essential, the necessary, the important element, is a degree of heat that, laboratory and clinical experience has shown, will kill the cancer cell in the tissues, regardless of whether it takes a long or short time to get it there."

Jensen has placed the vulnerability of cancer cells at 47°C. (116.6°F.) for five minutes; Loeb, for sarcoma at 45°C. (113°F.) for thirty minutes.

Lambert (cf. Percy) has recently pointed out that temperatures above 42°C (107.6°F.) were distinctly harmful and that the degree of injury to both normal and cancer-tissue depends on the degree of temperature and length of exposure. He further states that sarcoma-cells are destroyed by exposure to 42.5°C. (108.5°F.) for from twenty-four to forty-eight hours, 43°C. (109.4°F.) for six hours, 44°C. (111.2°F.) for fifty minutes, and 46°C. (114.8°F.) for twenty minutes, while normal connective-tissue cells survive these various exposures.

E. Vidal (cf. Percy) noted the arrested evolution of tumors in four patients with a temperature above 40°C. (104°F.). In order to be sure that this was not a quadruple coincidence, he daily exposed tumor-bearing mice to temperatures above normal, and found they lived longer and that the tumors were the seat of degenerative changes. In a bitch having a spontaneous lymphosarcoma, the zone of Richet was punctured, the temperature rose to 48.8°C. (105.3°F.) and the tumor diminished in size rapidly and finally entirely disappeared. In this connection, Vidal makes the startling and original observation that the methods of treating carcinoma by vaccines and toxins, etc., are all attended by a reaction, the principal symptom of which is an increase in temperature, and when such reaction is absent, the several authors state that there is no salutary influence on the carcinoma. He concludes that these various methods owe their success largely to their fever-producing qualities.

It has been shown conclusively by numerous laboratory workers that the malignant cell cannot be successfully transplanted after an exposure of ten minutes to a temperature of 113°F. (45°C.).

It likewise has been shown that normal tissue cells will bear a temperature of 132°F. to 140°F. (35°C. to 60°C.) without being destroyed.

Two methods of destroying the malignant cells by heat are available.

First: *Total destruction with Thermic Electro-Coagulation.* By this means the neoplasm is literally "burned up" or eschared.

Second: *Low degrees of heat.* By this method, the tumor is not eschared but the degree of heat produced is below the point of carbonization

We have then a most potent force in diathermy, producing heat in the depths of the tissue. Our inability to control the temperature, however, makes its application uncertain unless total destruction is desired.

The possibility of controlling the temperature in destroying neoplasms of the bladder is afforded by placing a thermometer in the rectum or vagina. This technic will be described later.

In my original contribution (Surgery, Gynecology and Obstetrics, November, 1921), I reviewed extensively the history of diathermy.

In this previous communication, I reported the experimental work on dogs which showed how easily and quickly tissue can be destroyed by thermic electro-coagulation.

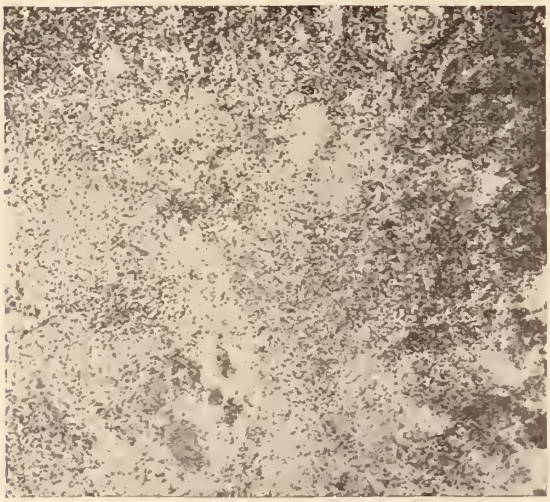


Fig. 1. Specimen of a diathermy burn of the bladder of a dog sacrificed on the second day. Microscopically the submucosa and muscularis show extensive polymorphonuclear and lymphocytic round-celled infiltration and a small amount of extravasated blood.

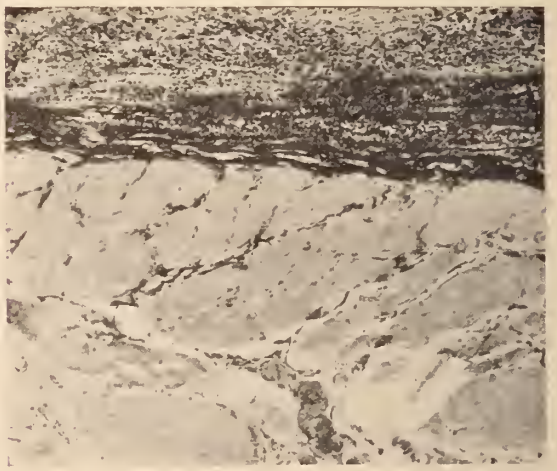
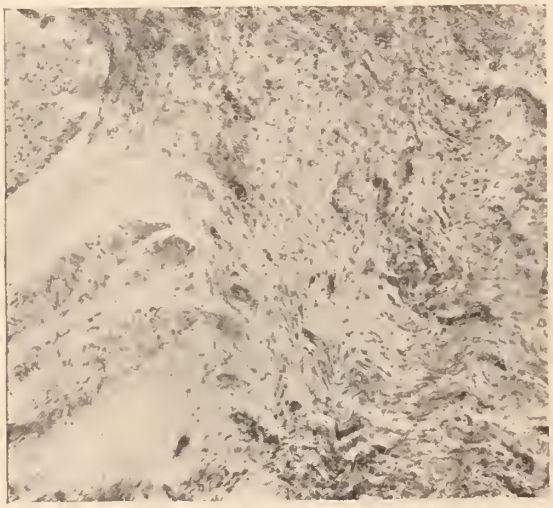
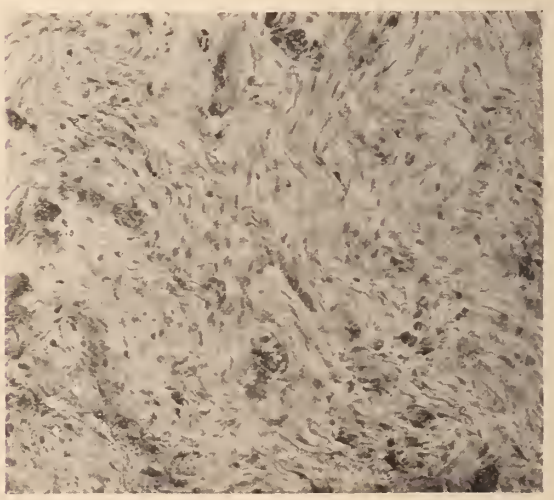


Fig. 2. Specimen of a diathermy burn of the bladder of a dog sacrificed on the eleventh day. Microscopically the superficial structures show a marked round-celled infiltration, no vascularity, or extravasated blood. The upper layers of muscle bundles showed a slow, long standing degeneration with loss or disintegration of the nuclei. The more superficial muscle bundles are poorly stained and show degeneration.





Figs. 3 and 4. Microscopic sections of scar tissue taken from dog's bladder 12 weeks after diathermy burn. The areas show a sharp line of demarcation between the surrounding tissue and the diatherminized area. The latter is entirely replaced by bands of fibrous tissue arranged both longitudinally and transversely.

The immediate effect is a slow "cooking through" of the underlying tissues, the effect upon the deeper structures being the same as that upon the mucosa. This is followed by an asceptic death of the submucosa and muscularis. Round-cell infiltration is marked only for the first three days.

Eventually this entire area is replaced by a dense proliferation of fibrous tissue which is nature's most formidable defense in the destruction of the cancer cell and the line of demarcation between the treated area and the surrounding normal tissue was definitely preserved.

The ureteral wall may be "burned back" in the dog almost to the entrance of the intra-mural portion. The results in three dogs under observation from 3 to 5 months have shown no derangement of function in the ureteral activity or the contractility of the bladder. No obstruction to the ureteral outflow occurred in five months. Clinically, I have cases of from two to four years' standing in which I successfully coagulated tumors on or about the ureteric orifice without subsequent ureteral obstruction.

Fig. 6. Specimen of a diathermy burn of the right uretheral opening of a bladder of a dog 12 weeks after operation. The right half of the trigone is composed of an indurated, firm, grayish white scar. The ureteric opening on the right side which had been burned back for a distance of 2 centimeters was still functioning normally, although it was surrounded by scar tissue. The ostium is contracted to a pin-point size. The scar tissue occupies the entire thickness of the bladder wall.

Fig. 5. Specimen of a right ureteric opening of a bladder of a dog 21 days after diathermy burn. The right half of the trigone is replaced by grayish, firm scar tissue. The right ureteric orifice is 1.5 centimeters posterior to the normal position and the ostium, which opened in the scar-bearing area, is not contracted or obstructed over this aera. The scar occupies the entire thickness of the bladder floor.

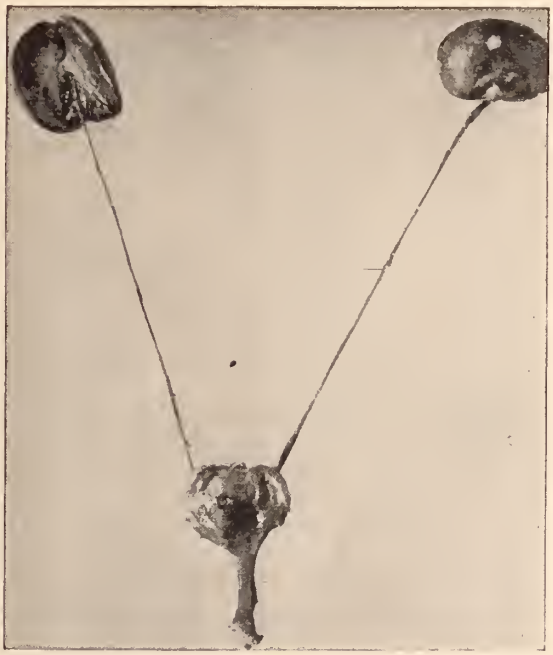


Fig. 7. Specimen of a diathermy burn of the right ureteric opening of a dog's bladder 12 weeks after burn. The right upper quadrant of the trigone is replaced by smooth, grayish, fibrous tissue in the center of which the ureteric opening protrudes. The orifice is 1.5 centimeters posterior to its mate. Both are normally patent.

Diagnosis.

In order to effect a cure in vesical cancers, an early diagnosis is imperative. We all know that

the first cardinal symptom of neoplasm of the bladder is hemorrhage. If the laity and the medical profession at large could only realize that haematuria is an even more dangerous symptom than haemoptysis, more tumors would be recognized early, treatment instituted, and the prognosis rendered more favorable thereby. Unfortunately, this important symptom is not evaluated in its true significance.

I believe it is safe to say, that excluding infections of the urinary tract, spontaneous, symptomless, terminal haematuria in 95% of cases is indicative of neoplasm of the bladder.

As the prevention of metastasis should ever be in mind in the treatment of tumors of the bladder, the indiscriminate practice of excising a piece of tumor for diagnosis should be condemned. If it becomes necessary to remove a piece of tissue for microscopic study, this should be done by the cautery snare.

The other methods available for making a diagnosis of bladder tumors are cystoscopy, palpation and roentgenography.

Cystoscopy.

We have been taught that all the papillomata are potentially malignant and that this malignancy increases as age advances. While this is true in a measure, we must not lose sight of the fact that malignancy appears in the young as well as in those of more advanced years.

It is impossible, in those cases that present themselves early for cystoscopic examination, to determine whether the papilloma is benign or malignant. Unfortunately, many cases come for examination when the malignant changes are advanced and infiltration of the bladder wall has occurred. It is at this period that cystoscopy will often disclose all we need to know, while a biopsy performed at this time is only of scientific interest and may be a dangerous procedure.

The salient features of a malignant neoplasm of the bladder, as viewed through a cystoscope, are:

1. The changing of a papillomatous tumor into a sessile growth;

2. Early necrosis or erosion of the tumor mass that has not been fulgurated;

3. Presence of accessory tumors slightly adjacent to a central tumor, which may or may not be associated with bullous oedema;

4. In the absence of a positive source of infection, the presence of a severe cystitis. This condition, associated with a bladder tumor, is often indicative of malignancy.

Palpation.

The palpation of tumors situated in the bladder through the abdominal wall is difficult. Occasionally, however, when the tumor involves the vertex, this can be accomplished with success. As at least one-half of the tumors occur on the base or lateral sides of the bladder wall, much valuable information can be obtained by rectal examination in the male. Here, the infiltration can often be distinctly palpated. In the female, the vaginal examination as a rule reveals the extent of the infiltration more distinctly than the rectal examination does in the male.

Roentgenography

No examination, however thorough, should be concluded without an X-ray examination of adjacent bony parts, for metastasis. If extension has occurred, the prognosis is grave and only palliative relief can be expected.

I believe that by careful and intelligent cystoscopy and roentgenography a sufficient knowledge of the local condition can be obtained. By avoiding any cutting procedure in the removal of tissue for diagnosis, the possibility of metastasis at this time is prevented.

Treatment.

A careful review of the literature points to the fact that the treatment of bladder tumors by excision is most discouraging. As the treatment of malignant tumors by excision is at best precarious and uncertain, would it not be better to attempt the development of a method that minimizes the possibility of metastases?

I assert that no tumor, whether benign, potentially malignant or malignant should be removed by excision.

If diathermy is not available, the electrically-heated soldering iron is far superior to any cutting procedure.

Diathermy has a distinct advantage over all methods used in the destruction of tumors, whether benign or malignant, for the following reasons: It is absolutely bloodless if a flat or blunt electrode is used.

It not only insures the total destruction of the

mass but also sufficient coagulation of the tissues in the immediate neighborhood to minimize the possibility of cell implantation.

Vascular structures situated near the vicinity are sealed, thereby lessening absorption. On this account, a shorter convalescence is insured.

On account of the extensive formation of scar tissue that is formed after the use of diathermy, nature's method of limiting the spread of the malignancy is enforced, as a consequence the neighboring embryonal cells are destroyed.

With the development of more accurate instruments for measuring the degrees of heat produced by diathermy, the destruction of neoplasms by lower degrees of heat becomes possible.

Our idea should be to strike once, if possible, making every effort to have the first attack a complete success in the destruction of the tumor. With this idea in view, the following is recommended:

1.—*Benign Papillomata where few are present and these easily accessible.*

Transurethral Thermic Electro-Coagulation with as large an active electrode as is possible to pass through an operating cystoscope. This insures the maximum amount of heat that it is possible to deliver into the depths of the tissues. This is followed by the transurethral application of radium with some special radium applicator.

It has been our custom to coagulate the papillomata, then await developments This I believe to be a mistake, as they may all be potentially malignant. It seems to me that the prophylactic application of radium may be an additional means that would destroy a latent malignancy. However, in the open method of attack by suprapubic cystotomy, when the thermic effects of diathermy are more accurately controlled, the use of radium is not necessarily indicated.

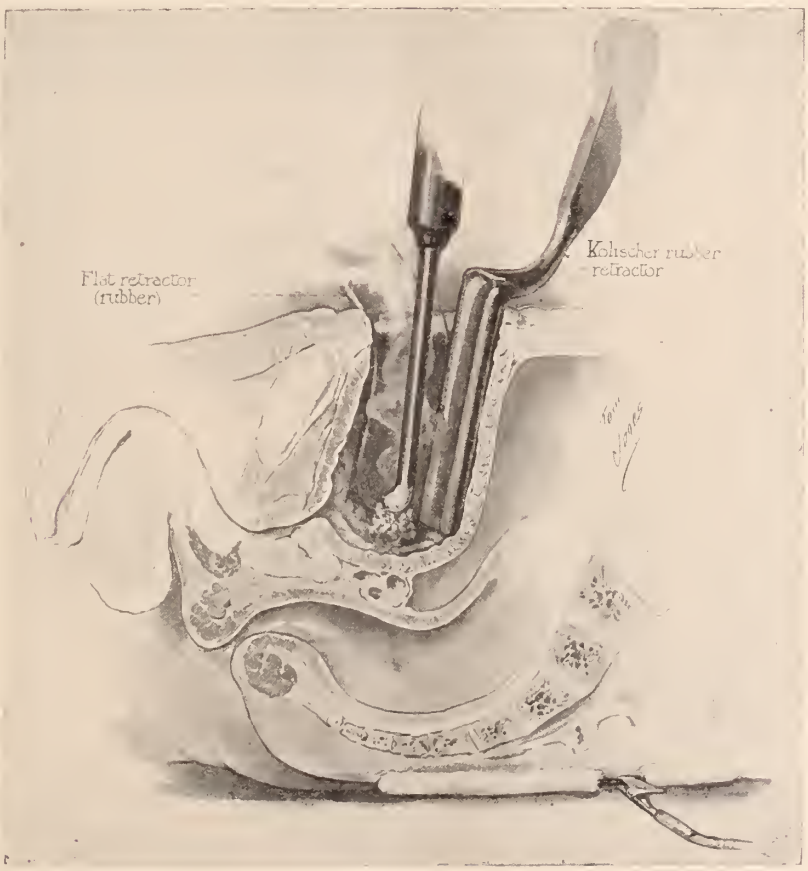


Fig. 8. Illustrating the inactive and the active electrodes, the Kolischer retractor and the flat retractor all in place; with the active electrode immediately over the tumor.

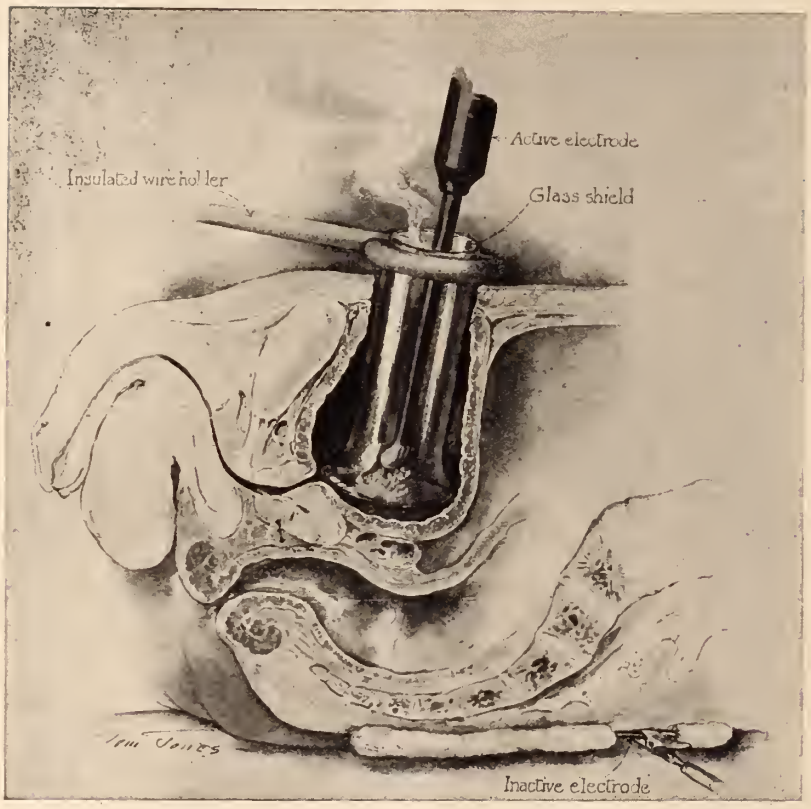


Fig. 9. Showing the glass speculum with the insulated wire holder. The active electrode is within the speculum.

2.—*Multiple Benign Papillomata and those Tumors that are Inaccessible Transurethrally.*

Suprapubic Thermic Electro-Coagulation. If this procedure is performed carefully and carbonization does not take place, there should be sufficient heat penetration in the depths of the tissues to destroy any possible malignancy.

3.—*Carcinoma.*

These tumors are treated by the same method as multiple papillomata, only the Thermic Electro-Coagulation is used more intensively (longer and deeper).

Technique.

When it is desirable to eschar the tumor mass, chloroform should be used as an anesthetic. If either gas-oxygen or ether is used, great care should be taken to avoid short-circuiting by having all parts of the electrodes thoroughly insulated.

For a description of the preparation of the patient and operating table, reference is made to my previous article on the subject.

In using *low degrees of heat,* we have found that "twilight sleep," combined with local anaesthesia, offers the best and safest method of applying diathermy. As a consequence, we prefer this to the more rapid method.

After a preliminary cystotomy, retractors are

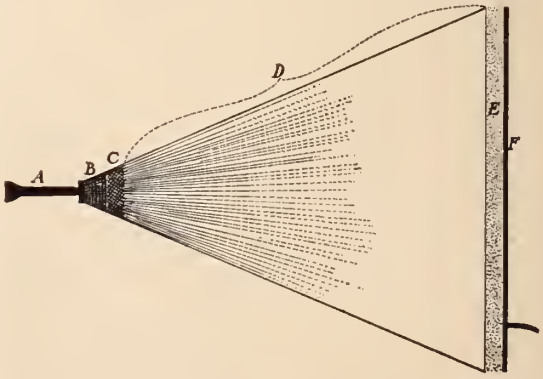


Fig. 10. Diagrammatic representation of what occurs under active electrode in surgical diathermy. *a,* One-fourth inch active disc electrode; *b,* tissues visibly coagulated to a depth approximately equal to the diameter of the disc electrode used; *c,* area of tissues in which the current density has been insufficient to cause coagulation, but has probably been sufficient to destroy the vitality of the cells; *d,* gradual diminution of current density and heating effect; *e,* thick pad of gauze saturated in warm saline solution (1 ounce salt to 1 pint water); *f,* large indifferent metallic electrode. (Reproduced from *Diathermy in Medical and Surgical Practice,* by Claude Saberton.)

introduced and a careful survey of the bladder is made.

During the electro-coagulation of tumors situated on the base of the bladder, there is a possible danger of perforating the rectal wall. By the introduction of a thermometer into the rectum in male patients and into the vagina in female patients, the exact temperature at the points of contact of the thermometer is definitely known.

The current is turned on very gradually. This insures a slow coagulation of the growth, at the same time the temperature as indicated by the thermometer can be carefully watched, and the danger of perforation avoided

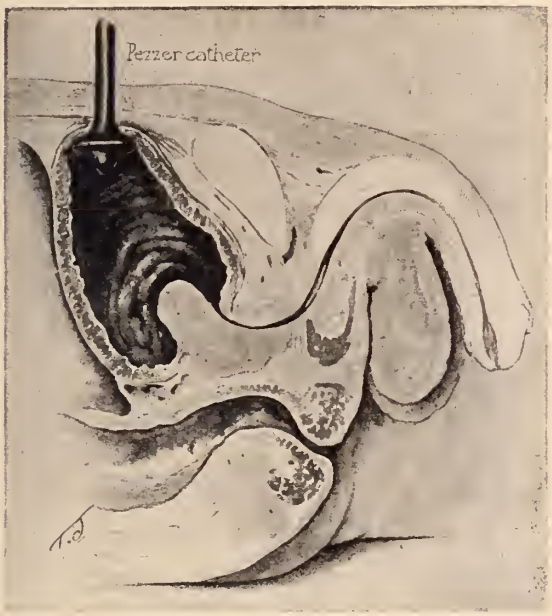


Fig. 11. Illustrating the position of the de Pezzer catheter,, after cystotomy.

The bladder is closed after the method of Pilcher with a de Pezzer catheter drain. We have followed the practice of establishing a permanent fistula for several months, our idea being, *first*, to put the bladder at rest; second, for inspection from time to time by suprapubic cystoscopy; third, in case of a recurrence to have the tumor easily accessible for a second application of diathermy.

Tumors Involving the Ureteral Ostium.

The method of "burning back" the ureter, when the orifice is involved in carcinoma, is the easiest and most efficient means of destroying the growth,

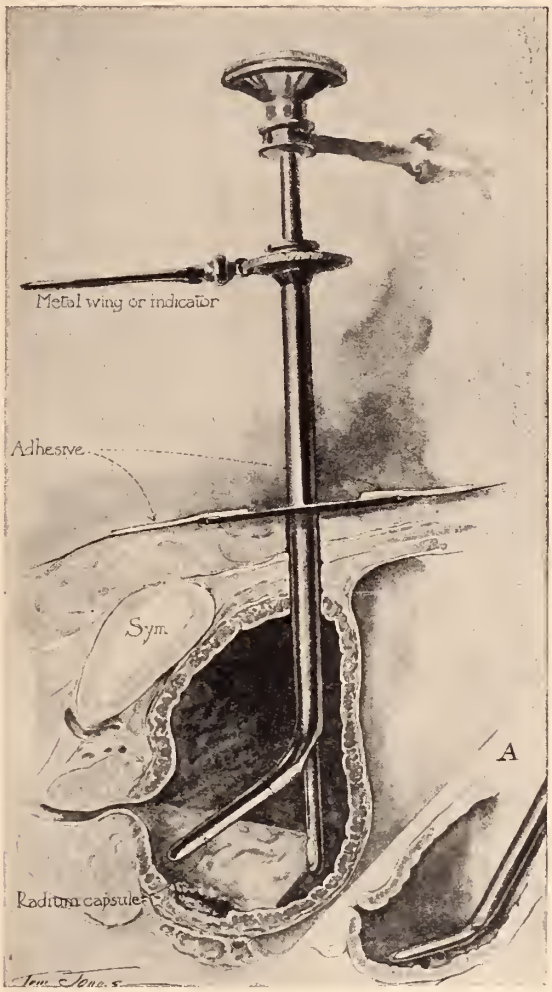


Fig. 12. Author's cystoscopic radium applicator. *a*, shows the radium capsule lying on the tumor after withdrawal of the observation cystoscope.

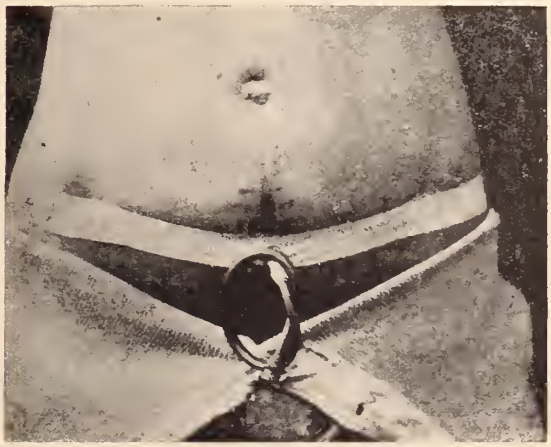


Fig. 13. Photograph of patient with de Pezzer catheter in place, the distal opening of the catheter being plugged with a cork.

at the same time preserving the ureter without resorting to any cutting procedure—*the one thing to be avoided in the treatment of cancer.*

Conclusion.

Diathermy can be used to destroy cancer in areas that are totally inaccessible by any other procedure.

In order to accomplish successfully the destruction of malignant tumors with Thermic-Electro-Coagulation, we must use a current that is low in voltage and high in amperes, only enough voltage being used to drive the current through the tissues. This, of course, varies in different parts of the body.

In coagulating tumors of the bladder by the low infusion of heat, 1,500 milliamperes are as a rule sufficient.

ACUTE DILATATION OF THE STOMACH.

The occurrence of acute gastric dilatation during the course of an abdominal operation, Lester R. Dragstedt and Carl A. Dragstedt, Chicago (*Journal A. M. A.*, Aug. 19, 1922 state, indicates that the mechanism is probably a nervous reflex. There is direct experimental evidence as well as clinical observation that ether or chloroform anesthesia depresses the gastric tonus, and this no doubt may be a contributory factor in many cases. It is not probable that the absorption of toxic materials from the occluded upper intestinal tract or duodenum plays an important rôle in the gastric dilatation, since this was never observed in animals in which a toxemia similar to that of high obstruction was induced by the production of closed intestinal loops. It is quite improbable that the dilatation of the stomach is responsible directly for the protean symptoms that accompany the condition. The symptoms, such as vomiting, thirst, scanty urine, and rapid collapse, which often make it difficult to distinguish the condition from perforative peritonitis or intestinal obstruction, are those of a severe toxemia rather than the result of reflex or mechanical effects from the stretched and dilated stomach. During the course of an experimental study of acute intestinal obstruction, certain facts were forced to the authors' attention which have great significance for the present problem. In those experiments it was demonstrated that the toxic materials, which in the event of an acute high obstruction entered the blood stream and caused a sudden and fatal toxemia, had their origin in the intestinal tract as a result of the activity of proteolytic intestinal bacteria. Of even more importance, however, than the presence of these toxic bodies in the the intestine are the factors which permit their absorption. They are not absorbed through a normal intestinal mucosa, but are absorbed when the blood supply to the intestinal wall has been disturbed by great distention. Organs, such as the colon or stomach, which have in part a storage function are capable of very great distention without injury by reason of the arrangement of their blood supply. On the other hand, the small intestine, especially the duodenum, is capable of practically no dilatation. Observations demonstrated that a slight obstruction, of a degree which would have no effect in the small intestine or colon, would in the duodenum result fatally. The facts developed from animal experimentation indicate that a severe or fatal toxemia could quite easily arise in man from an arteriomesenteric obstruction to the duodenum; but when this is a primary factor there is no evidence to indicate that dilatation of the stomach would probably follow. In all experiments it was noted that toxemia usually occurs within a few hours after distention of a closed loop and interference with its blood supply. In gastrectasis following surgical operations, however, the toxic symptoms are usually delayed two or three days until a time when the duodenal occlusion could have developed, and a distention could have taken place. It is difficult to see how a dilatation of the stomach of reflex origin could take place two or three days after the inciting trauma of the operation. It is more probable that the dilatation is immediate but unrecognized until the secondary duodenal occlusion has produced the toxic symtoms. It has been definitely established that the excessive mortality formerly associated with acute gastric dilatation may be greatly reduced by the prompt use of the stomach tube and the adoption of the postural treatment advocated by Schnitzler. The frequent use of the stomach tube removes from the stomach and distended duodenum the toxic materials whose absorption is responsible for the toxemia, and also lessens the occlusion to the duodenum produced by the weight of the stomach. The adoption of the knee chest position or the prone position with elevation of the pelvis affords relief. It releases the mesenteric occlusion of the duodenum by removing the downward traction of the mesentery and the weight of the dilated stomach. This type of toxemia in dogs can be successfully controlled by the frequent administration of large amounts of Ringer's solution or salt solution intravenously or by hypodermoclysis. There is no reason why such treatment may not be tried in clinical cases.

CONTRIBUTIONS TO THE PHARMACOLOGY AND THERAPEUTICS OF IODIDS.

The investigations made by Earl D. Osborne, Rochester, Minn. (*Journal A. M. A.*, Aug. 19, 1922), suggest that the iodin given in the form of postassium iodid by mouth forms a sodium protein combiuation, while in the case of sodium iodid by mouth only traces of iodin enter into combination with the proteins. In a study not yet completed of two patients exhibiting symptoms of iodism following the administration of sodium iodid by mouth, the iodin united with the protein fraction to a greater extent than in normal persons. These observations have a direct bearing on the relative effectiveness of potassium and sodium iodid by mouth and the latter intravenously.

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EDITORIALS

A HERITAGE.

By Frank Billings, Sc. D., M. D.

FROM the priest-physician of ancient times, the medical profession inherited and still retains the high ideals and altruism of the priesthood. This idealism is expressed in the avowed main purpose of physicians—"to relieve suffering and prolong life." Guided by this idealism modern medicine is the accomplishment of the medical profession, sanitarians and other scientists. WITH THE NECESSARY CO-OPERATION OF AN ENLIGHTENED EDUCATED PUBLIC, the application of known and tried reliable means of prevention has lowered the death rate of tuberculosis of the lungs,—the great white plague, fifty per cent or more, and has well-night eradicated typhoid fever, typhus fever, yellow fever, diphtheria, cholera, malaria, small-pox, bubonic plague and other diseases which have killed thousands upon thousands of people in the past. Through the efforts of the medical profession, nobly supported by philanthropic citizens in the education of the public, the death rate among infants and children due to diarrhoeal and other diseases, has fallen in many communities to a fraction of the former mortality. All this has been accomplished by the unceasing efforts of physicians and public health workers in educating the public and in the rational application of reliable methods of disease prevention, and in the utilization of scientific means of treatment.

WHAT IS THE ANSWER?

THE following is taken from an address by Dr. H. Gideon Wells, President of the Alumni Association of Rush Medical College. It is a sermon in itself. What is the answer? Let's have some discussion! The Journal will publish the ten best letters in answer to the question.

"The first question that I am generally asked when I meet a member of the Rush faculty is, 'When will the new medical school be ready?' This is something I promise you I shall not disclose this evening. President Judson doesn't know, Dr. Billings doesn't know, and I won't tell. In seeking for light on this vital topic I have met with many rebuffs, but with none so telling as the one I received from the architect, Mr. Hodgdon. Last summer I met him coming toward the University from the Illionis Central. As we had spent many hours together the year before in working out the details of the new laboratories, I asked him, brightly, 'Are you coming out to see the new medical school you are going to build?' 'No,' says he, 'I'm coming out to see the Christian Science Church that I *have* built.'"

DUES FOR 1923.

YOUR dues for 1923 wil be payable during the month of December. You will recall that the House of Delegates representing each and every county medical society of the state

voted unanimously at its last meeting to raise the dues five dollars for the coming year. This is to provide adequate funds to finance proper representation at the coming session of the legislature in an effort to secure a proper medical practice act, one which will require a uniform educational foundation for all who treat the sick, and to provide for a full time Secretary-Editor to look after your interests throughout the year.

Results cannot be accomplished without paying for them. The Society will bring to its members just what they put into it. Let's give "the answer" to the preceding editorial by a prompt payment of dues—by a willingness on the part of each member to do his share. Christian Science churches are not maintained on a five dollar a year assessment, nor do chiropractors flourish on any such amount per capita.

AS OTHERS SEE US

Editorials from the Lay Press.

SELF-SACRIFICE IN THE MEDICAL PROFESSION.

Announcement was recently made by the American Gas association that a number of physicians and scientists had voluntarily inhaled deadly gases to the point of asphyxiation to test out resuscitating methods. The public ought to feel grateful to the self-sacrificing men who undergo perils like this for the benefit of human life.

Not merely are daring experimenters constantly assuming such risks, but physicans and nurses are continually taking chances in their professional devotion. If your child has some dangerous contagious disease, the average man might not be willing to enter any part of your home to make some needed repairs, while your doctor and nurse spend many hours in the sick room taking chances that they may catch the deadly infection. People do not half appreciate the sacrifices that these professions make. *The Sheboygan Telegram.*

ON THE MEDICAL FRONT.

Government figures announce a new low record in the death rate throughout what is known as the registration area of the United States, comprising the larger part of the country.

This fact indicates an advance all along the line in the fight against disease. If the advance were evenly distributed, it might be interpreted as a general advancement in medical science and preventive methods and a slow but sure tendency to make this country a healthier place to live in for everybody.

But the death rate furnishes only an average. Medical warfare is gaining ground with respect to a large number of diseases, while others are still defying every effort to check them.

Coincident with a gratifying showing of general mortality statistics comes a statement from a New York life insurance company calling attention to the fact that the cancer death rate, for instance, is again on the increase, after a temporary check during the years of 1918 and 1919. In 1921, according to these figures, it was higher than at any time since 1911.

The insurance doctors hazard a guess that the decrease in cancer in 1918 and 1919 "may have been accounted for by the influenza epidemic, which unquestionably killed many persons who would otherwise have died from cancer."

This does not sound very reassuring. If influenza merely outran and forestalled cancer in the race of death, the gain to humanity is problematical.

The brighter side of the story is told in a definite announcement of the decrease of infant mortality and a lowering of a tuberculosis death rate. The tuberculosis fighters convening in this city were assured by Dr. Ravenel that they are making substantial progress, though much remains to be done in protecting the young from infection.

These comparative figures serve a good purpose in drawing attention to the weak spots in the medical front. Disease, generally speaking, is on the run, but it is making a stubborn stand to certain points. It took a special effort, not only by medical men but also by the public, to cut down the ravages of the white plague, and it is evident that a similar organized attack will have to be made on the plague of cancer before we can hope to record further progress.—*The Milwaukee Sentinel.*

A COMMUNITY PHYSICIAN.

The problem of the country doctor is becoming increasingly a serious one. Physicians who are

beginning their practice hesitate to risk the inconveniences and uncertain compensations of rural life, and choose the more populous towns. On the other hand, there are innumerable communities in the United States where the nearest physican is miles away, where he cannot be reached quickly, and his visits are expensive. The situation is intolerable, when life and health hang in the balance.

The little town of Ihlen, Minnesota, faced such a situation, and they have found a very satisfactory solution. Two hundred people have signed an agreement to pay a physican $12 a year each, and his services have been secured. Thus the community is assured competent medical care, and the physican a fair living. Any person with a proper respect for his family's health would be willing to pay a dollar a month.

The public is becoming conscious of the tremendous importance of health, and it is learning that it is better to prevent sickness than to cure it.

The realization is also growing that a system is wrong which gives such slow returns after the time and expense spent by a doctor in preparing for his work. The same system gives one community too many physicans, and leaves another without any.

Many large firms have already learned the wisdom of employing a company physican on a salary to take care of the health of their workmen. Wise communities will follow the same plan. *The Marinette Star*

A Notable Gathering.

Adding five years to the span of human life is a wonderful achievement—one that a good many persons on casual thought would assert to be impossible.

That it is far from impossible, but has actually been accomplished is shown by life insurance statistics recently compiled, which show that at birth the complete expectation of life in now 54.3 years as compared with 51.5 years in 1910 and 49.2 in 1900. Thus in the last twenty years the expectation of life has been extended five years.

This is, of course, the result of wider knowledge on the part of physicans and health authorities concerning preventable disease and the dissemination of such knowledge among the people.

Perhaps the worst scourge of a decade ago was tuberculosis. It still remains as one of the great causes of untimely death.

But, through the nationwide campaign which has been so vigorously prosecuted; the free clinics by means of which incipient cases are detected, and the spread of information regarding preventive as well as curative measures, the death roll of the white plague is being steadily and increasingly cut down.

Beginning Monday morning, the tenth annual meeting of the Mississippi Valley Conference on Tuberculosis will be held at the Hotel Pfister.

It will be a noteworthy gathering, not only because of the vast importance of the subject matter of its deliberations, but because of the personnel of its delegates.

The officers of the National Tuberculosis association will be here for an executive meeting and among the delegates will be nationally known figures, not only in specific health activity but in the business and professional world, which has come thoroughly to recognize the value and the vital importance of the preventive and educational work carried on by the organized foes of the white plague.

Milwaukee entertains many conventions. It is doubtful if a more important or significant gathering than this has been assembled in the city. *The Milwaukee Sentinel*

THE JOURNAL
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TO UTILIZE
IT FOR THE
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ON
MEDICAL SUBJECTS

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TONSILLECTOMY DEATH.

BY EDWARD F. MIELKE, M. D.
APPLETON.

During the last year I have become extremely interested in the case reports sent out by the Wisconsin State Board of Health, whose purpose it was to stimulate the profession to watch out for syphilis constantly. These reports impress one with the fact that it should be the duty of every physician to have a Wassermann examination made upon every obscure case. The following case report is quite a typical example of the type which every physician sees in his office many, many times each year. Now and then the mystery will be cleared up when the report comes back "four plus."

A married woman, aged 44, was seen in general office practice during April, 1921, and sent to the Augustana Hospital, Chicago, Illinois, for tonsillectomy. Her chief complaints consisted of epigastric pain, chills, sweats, headaches and hot flashes. Her husband was living and well and denied venereal disease. Their two children were living and well. The wife had had no miscarriages and only the usual diseases of childhood. She also denied venereal disease. She was operated upon five years before by a competent surgeon. Some pelvic surgery was done, and exploration of the rest of the abdomen was negative. She improved somewhat following the operation but still complained of nervousness and neuralgic pains for which she was treated at frequent intervals.

Six months before the woman was admitted to the Augustana Hospital a new symptom developed which consisted of epigastric distress characterized by a constant sore spot in the pit of the stomach and radiating to the left. Food taking did not bring relief; in fact it did not have any relation to the trouble. Pressure and massage of the abdomen seemed to relieve the distress to some extent. She did not vomit, but belched a good deal of gas. She had a general weak feeling, frequent chills, and sweats, and attacks of flashes of heat and cold several times a week. Headaches were common. She slept poorly. Urination was necessary three to four times at night. Menstruation stopped one year before. She had some shortness of breath. Bowels were constipated.

Physical Examination:

Patient is a tall, fleshy woman of about the age stated. Weight is about 200 pounds. She complains of many vague symptoms.

Scalp is negative.

Eyes react to light and accommodation.

Nose and sinuses are negative.

Teeth are carious.

Tonsils are enlarged, cryptic, and exude caseous material on pressure.

Neck is negative.

Heart and lungs are normal.

Abdomen: Quite obese and hard to palpate. No palpable masses. Liver and spleen edge not felt. There is a definite tender area over the gall bladder area.

Vaginal and rectal examinations are negative.

Knee jerks are present.

Laboratory:

Urine negative except for a trace of albumin.

Blood count within normal limits.

Blood pressure S. 140, D. 95, P. 45.

Diagnosis:

Chronic Cholecystitis.

Infected Tonsils.

Obesity.

COMMENT.

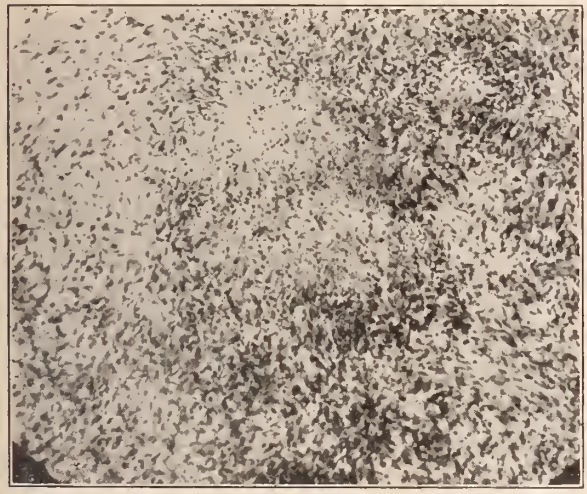
This patient presented such a variety of symptoms that it was difficult to make a definite diagnosis. The fact that her abdomen had been explored five years before with negative findings and that her immediate symptoms were of such short duration made us think that possibly part of her trouble was functional. It was thought that for the present the removal of her tonsils, correction of obesity, and general hygienic treatment would improve her condition to some extent at least and would allow for more time to elapse to rule out the association of her symptoms with the menopause. If, after a few months of observation, her trouble did not improve, she was advised to reenter the hospital for a complete laboratory examination.

Under local anesthesia, one half per cent novocaine, her tonsils were removed. She bled quite a little following the operation, but at the end of 24 hours seemed in good condition. A few hours later she rapidly passed into a condition of shock, and was dead in another 20 hours.

AUTOPSY.

Anatomical diagnosis: Tonsils surgically removed. Tongue normal. Heart and lungs no findings of importance. Aorta, oesophagus and large mediastinal veins normal. Stomach, colon, intestines, spleen, and pancreas quite normal. Marked omental adhesions to the anterior abdominal wall. Healed low mid-line abdominal incision. Congenital atrophy of the right kidney.

size of a small egg. Left kidney normal. Gall bladder filled with black bile. No stones. Some adhesions about the gall bladder. The liver was markedly enlarged and contained many nodules varying in size from a grain of rice to a large egg. It was scarred and deeply fissured and gave the impression of a bunch of grapes. A medium sized nodule was pearly gray, hard, and of uniform consistency without softening of the center. These nodules, on first impression, made us think that they were carcinoma; but we could find no primary source. Furthermore one would expect bloody ascites, portal obstruction, and cachexia with so extensive an involvement. To be primary in the liver one would expect an infiltrative lesion from one area. Tuberculosis was thought of but was found in no other organ, and the nodules showed no softening. A gummatous lesion alone remained, and this was proved later by microscopic examination of the tissue. See plate.



Section of the liver. Low power. Small gumma seen in the center outlined by a dense wall of round cell infiltration.

COMMENT.

Gummatous hepatitis, as is well known, may manifest itself in many different ways, though it usually runs its course without symptoms and is frequently discovered only at autopsy. Its symptom complex may simulate cirrhosis of the liver, tumor of the liver, icterus gravis, amyloidosis, simple corset lobe liver, splenic anemia, multilocular echinococcus disease, gall bladder disease, and cachexia. It may also simulate suppuration, such as an abscess of the liver because of its irregular type of fever. With this fever chills and sweats may occur, or there may be moderate fever of the intermittent or remittent type without chills.

This case is a most instructive one—much more so than the "recovery uneventful kind." One should be extremely careful in considering a patient's symptoms either functional or associated with the menopause. This patient manifested some of the above symptoms and should have led us to suspect a liver lesion associated with her cholecystitis. The immediate cause of her death is hard to explain. Surely the novocaine did not cause it. It is possible that the operative trauma might have caused 'toxins" to be liberated from the gummata which overwhelmed her in much the same way as we understand a Herxheimer reaction.

611 Morrison St.

DIVERTICULUM OF THE BLADDER—REPORT OF A CASE.

BY IRA R. SISK, UROLOGIST,

JACKSON CLINIC,

MADISON, WISCONSIN.

Case No. 31551, a man aged 46, who had applied for life insurance was referred to the Clinic by the insurance company on June 24, 1922, because he had been told eighteen months previously that he had a little albumin in his urine. He had no symptoms referable to the genito-urinary tract at the time and in fact had had practically no symptoms at any time. The only symptom that he had noticed was that when he was very tired he sometimes had a slight tinge of pain at the end of urination.

General physical examination revealed nothing of importance. His systolic blood pressure was 125, diastolic 90. On rectal examination the prostate gland was found to be of normal size. External genitalia were normal and the kidneys were not palpable.

Chemical and microscopical examination of the urine showed specific gravity 1028. reaction acid, a trace of albumin and considerable pus.

On cystoscopic examination the bladder was found to be of normal size and showed a very slight low grade chronic diffuse inflammation. There was also a little trabeculation of the bladder wall. The prostate gland was not enlarged. There was 155 c.c. of residual urine. Normal spurts of urine were seen coming from both meatus and both ureters were catheterized without difficulty. Microscopical examination of the specimens of urine collected from the kidneys was negative. A cystogram was made which showed a diverticulum of the bladder four by six centimeters in diameter in the left base.

Resection of the diverticulum was recommended because of the residual urine and infection, notwithstanding the fact that the symptoms were negligible.

This case emphasizes the importance and value

of the cystogram in the diagnosis of lesions involving the bladder. The opening connecting the bladder with this diverticulum was not found on cystoscopic examination, even after the presence of the diverticulum was known and a second cystoscopic examination made for the purpose of searching for it. The presence of the diverticulum was suspected because of the residual urine of 155 cc. which could not be accounted for in any other way. The common causes of residual urine are:

1. Obstruction of the urinary outflow, from
   (a.) Hypertrophy of the prostate gland,
   (b.) Stricture of the urethra,
   (c.) Vesical calculi.
2. Lesions of the central nervous system.
3. Diverticulum of the bladder.
4. Atony of the bladder.

The cystogram gives us information of the greatest value in many of these cases and if adopted as a routine procedure in such cases, will frequently enable us to make a diagnosis when it is impossible to do so by other means.

The accompanying cystogram shows the diverticulum and the residual medium in the bladder after the bladder had been completely filled with the medium and the patient had evacuated as much as he could. It demonstrates very clearly the fact that the diverticulum does not empty when an attempt is made to empty the bladder.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical
Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

THE MUTUAL INTEREST OF THE PROFESSION AND THE PUBLIC.

BY W. S. RANKIN, M. D.,

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RALEIGH, N. C.

THE MUTUAL INTEREST.

The profession and the public have a large mutual interest which unites them in a common task and draws them toward a single objective. That interest consists of a surplusage of unnecessary, untreated, and inadequately treated disease and impairment, which, in its totality, constitutes a waiting field of medical practice from two to five times greater than the present occupied field of medicine. This last statement constitutes the major premise of this paper, and is so related to what follows as to make its assimilation by the digestive or analytical process advisable before proceeding to other related considerations. We turn then to a brief and rather general analysis of the unoccupied field of medicine.

Beginning at the beginning with maternity, we find from 25 to 35%, say an average of 30%, of the births of this country, a total of approximately 750,000 births a year, unattended by physicians. These women pass through the valley of the shadow of death with no ray of the light of science to dispel its gloom and with only the flickering candle of the midwife to guide them through their travail. And to the labors without medical attendant the enormous unsupplied need of pregnancy for medical supervision; add again the very inadequately supplied need of the puerperal state with medical care, and you have an unoccupied field of maternity from two to five times the size of that which is cared for.

From infancy we pass to childhood. Add absent, delayed, and inadequate medical attention to the cases of the acute diseases of early life—measles, whooping cough, scarlet fever, diphtheria, meningitis, early manifestations of tuberculosis, etc.,—and add to that the needed treatment for the common defects of childhood—how significant the term—the 20% or 4,000,000 of the public school children of the country with defective vision that needs correction, the 75% or 80%, or 15,000,000 of the public school children whose mouths need treatment in order to prevent subsequent digestive disturbances, rheumatism, and cardio-vascular damage, and the 5%or 1,000,000 of the public school children who need operations for tonsils or adenoids, and again consider the relative sizes of the occupied and unoccupied fields of medicine.

From childhood we hasten on to adolescence, the age of sex awakening and social restraint of the sex impulse, the premarital state. Here we find susceptibility to, prevalence of, and damage from venereal diseases greatest. With syphilis causing one-tenth of all deaths, responsible for 20% of the inmates of our institutons for the insane (whose total population approximates the total population of our universities), with gonorrhea as the chief cause of sterility and the principal contributor to the gynecological wards of the hospitals, with its enormous drag on efficiency and industry, —in combination, a group of diseases which in the height of the war took more men out of the line of battle than shot and shell and gas, and you have a field of medicine that largely sustains three specialties, gynecology, genito-urinary surgery, and skin diseases, and, in addition, generously contributes to the general run of the practice of medicine. How much of this enormous field is occupied? From 16 to 20% of venereal diseases are reported by physicians and perhaps not more than twice that percentage, 30 or 40%, are treated by the profession. Of the cases that are seen by physicians and treated by them, it is safe to say that even those cases do not receive or take one-third the treatment that is needed both in the interest of the indivdual and the public. No one well informed as to the prevalence of this group of diseases can seriously consider the treatment given as compared with the amount of treatment needed without again agreeing that the unoccupied field in this sector is from two to five times greater than that which is adequately held by the forces of science.

And again, we hasten on. We have arrived at adult life. In the interest of time, we introduce but one witness, but that an altogether sufficient

one for the question involved. The Life Extension Institute of New York, in the last two years, has examined something like 250,000 people, both sexes, all races, engaged in various industries, and living in different parts of the country, the persons examined being selected indiscriminately with reference to appearance. The Institute found that about 60% of those examined were in need, at the time of examination, of medical treatment, and not more than 20% of those needing treatment were receiving it. In short, the Institute found that in adult pathology the field was about one-fifth occupied and four-fifths unoccupied.

Truly the fields are white unto the harvest, but the laborers are few. This great surplusage of disease makes the interest of the profession and the public one, binding citizen and physician in a common purpose, coupling the determination of the public to remove disease surplusage with the ability of the profession to bring about the removal. Let those shallow minds and timid souls among the brethren who fear or feign to fear a curtailment of professional opportunites and rewards, both material and immaterial, remember that only through the use of medical science, only by making the field of medicine larger and more attractive, can this waiting, unoccupied field of medicine be reclaimed from the domain of ignorance and need.

THE DEVELOPMENT OF THE MUTUAL INTEREST.

Medical science cannot hold the nose of the public and pour remedies down its throat; it is not a child incapable of thinking, insusceptible to advice and reason. The need of remedies and the value of remedies must be explained to the patient, and a desire to be treated created in the patient's mind. In short, a greater demand for the application of medical science to the existing surplusage of disease must be developed.

INCREASING THE DEMAND.

In increasing the demand for medical science, in intelligently enlarging the usefulness of medicine, we have an educational problem confronting us. Intelligence appreciates, uses, and pays for medical science, but ignorance neither appreciates, uses, nor pays.

There are two principal ways and two prinicpal means for this educational work. One way is by the written word, bulletins, pamphlets, press articles, and literature in various forms. The other way is by the living voice addressed to individuals collectively. The first is the method of the Bible; the second, that of the preacher. The first way is the usual method pursued, and, in general terms, about the only method available for such central agencies as federal, state, and associational health services; furthermore, for most local health agencies, where personnel in proportion to the population to be reached is limited, it, education by the written word, is the method that has to be depended upon very largely. The second way, the living word, is a method that exists potentially rather than actually. It is needed for close-up work; it has the element of personal contact which carries, in addition to the letter, the spirit that gives it life; it is the only way that a very large, unreading, potentially influential, voting population gets its information and its inspiration. The first way, the written voice, scattered broadcast through printed page from some long distance agency, is helpful and is necessary as is the barrage in preparation for a hand to hand fight, but the second way, the meeting of the masses in person, talking to them collectively, answering their individual questions before collective groups, dealing with them as man to man, is as necessary to carry the strongholds of superstition and prejudice for the forces of science and progress as is the infantry attack in battle.

It is not necessary to discuss here public health education through the written word. We are all familiar with that. I do, however, want you to consider carefully and seriously the need and the potentialities of educational work through the living voice directed toward raising the popnlar intelligence with respect to the prevalence of disease and impairments and the more extensive use of medical science. Consider, if you will, the weak position of our church or denominational organizations if these organizations depended upon their state publications, their correspondence, their traveling evangelists, and had no local and fixed group to do the collective educational work through the living voice, following this with the pastoral or case work which the preaching makes possible and extends. Our local physicians, members of county medical societies, make their pastoral calls to heal the body sick physically as the minister makes his local call to heal the body sick spiritually, but they do not complete the minister's pro-

gram, they do not speak to their congregations, they do not preach the gospel of good health, of right living here, they do not teach the people collectively.

The county and local medical societies, particularly the rural medical societies, must become better organized for other purposes than merely to meet once a month, discuss differences of opinion with respect to scientific problems, and occasionally construe the code of ethics; they must become organized to meet their social, collective, larger and common opportunities and obligations to what Dr. Osler used to refer as the larger audience.

Our units of medical organization are so constituted today as to inhibit rather than to encourage the education of the local people collectively by the living voice of their own local physicians. Let some member of the average county medical society begin to make public addresses in his county upon subjects in which he is especially interested and which are of far reaching importance to the general welfare. No matter how worthy his purpose and how well performed his task, he unavoidably takes an advantage of his fellow practitioners in that he, in educating his own people collectively, inevitably advances himself personally; he is looked upon askance by his fellows, is called an advertiser, is discouraged, and suspends operations. Only the outsider from some distant point can speak to the people of the county without risk of suspicion.

Suppose on the other hand the average rural county medical society, say with twenty-five members, selects twenty-five subjects which will include 90 or 95% of the information on hygiene and health that the county people need, secures the promise from each of its members to speak or read once each month an address or paper which the county society writes, has written, or secures from some outside source and finally adopts as its own address. Note that the address or paper is now not that of the person who presents it, but is that of his profession. Such a program would mean a total of three hundred public addresses during the year, which, given to average audiences of only 100 people, would reach a total audience during the year of 30,000, that is, practically the entire population of the county. Under such arrangements collective medicine would make contact with collective thought, and no outsider, federal official, state official, or any one else could come between the local group of doctors and their own people. It is high time that the organic units of the medical profession begin to assume their rightful leadership in public thought, the local professions no longer being content with pastoral visits and with no well considered plan of collective work for the physical salvation not only of their people but of themselves as well.

SUPPLYING THE INCREASED DEMAND.

As organization of the local unit of the profession, that is, the county medical society, is necessary to increase the demand for medical science and enlarge the field of medicine, so, too, the organization of the county medical society for the purpose of supplying the increased demand will be necessary. The time limit will permit me to touch only briefly upon this phase of the subject.

The primary demand to be supplied will be for examinations and diagnosis. The educational work above outlined will cause hundreds and thousands of those who become interested in the matter of health to wish to know whether they have an incipient or unrecognized disease or impairment, or whether by alterations in living habits their health may be promoted to a higher level. A secondary demand that will rise in consequence of such physical examination will be a more extensive demand for treatment.

In providing for these two demands, more adequate diagnosis and more adequate treatment through organized effort, it will be found that the plan of organization will involve both the local profession and the public and will embrace both professional and business considerations. The two organizations, profession and public, and the two main considerations, professional and business, will merge and find their proper relations in a public county clinic run and manned by the profession and financed by the community.

In considering the professional organization of such a clinic in an average county of 25 practicing physicians, a service of 4 hours per week per physician would provide 100 hours of professional service every week for the county. Such a public clinic could operate 2 afternoons, 4 hours each, every week with 12 physicians in attendance; or 4 afternoons, 2 hours each, with 10 physicians in attendance; or 4 afternoons, 3 hours each, with 8 phsicians in attendance; however, the number of hours served by the combined county medical society and their arrangement of one day, or one

afternoon, or several afternoons, and in groups of four, six, eight, or ten physicians are details for the consideration of the local county society. With 100 hours per week and with physicians working in groups as they did in examining the drafted men during the war, from 100 to 150 people per week, from 400 to 600 per month, from 5,000 to 7,000 per year could be examined.

As a result of these examinations a large increased demand for medical treatment will inevitably arise. Those needing and seeking treatment may be classified into those who can pay and those who cannot pay. The first class would be referred by the clinic to their family physician; in considering the second class, those who cannot pay, the charity practice of the county, we come to the business considerations involved in this organized effort to meet the demand for medical science.

In dealing with the business elements which enter into this problem it will be well to observe in the outset that the burden of charity practice, constituting from 20 to 40% of practice, is a burden which should not rest upon twenty-five citizens of the county, that is, upon the twenty-five practicing physicians, but is a burden which should be distributed and which should rest upon the entire citizenship of the county, its 30,000 people. All treatment administered in the clinic to the needy should be paid for by the public, and the funds paid in divided among the physicians serving the clinic, according to details to be worked out jointly by the county medical society and group representing the public.

In securing funds for such a clinic, the following possible sources are to be considered: (1) a nominal charge against all who apply for clinic benefits; (2) local red cross chapter funds; (3) local funds received through the sale of Christmas Seals; (4) appropriations by the city or town authorities; (5) appropriations by the county authorities; (6) an annual church collection from the churches of the county in response to that commission "heal the sick"; and (7) contributions from benevolent and financially able citizens of the county. With the educational work upon which all this is predicated, the necessary revenue to maintain a public clinic would be assurred.

A business organization of interested, broad-visioned, public-spirited men and women should be effected to organize the people of the county around the clinic. Such a lay organization would assume two definite tasks: (1) arrange for the places and notices for public addresses by the physicians; and (2) secure funds with which to finance the clinic.

The local medical society would work out with this group of business men, and define on paper, the conditions under which the business group, representing the community, would issue cards of admission and also requisitions for treatment to those who apply. In the whole scheme, the local society, through organized effort, would assume the initiative and approve everything that was done both in providing for the increased demand with respect to diagnosis and the increased demand for treatment.

The profession at present is extensively and intensively interested in the development of public hospital facilities. This is a worthy interest and should be encouraged in every way. But the hospital is something that will come only when the local county people have been informed through educational methods as to the prevalence and meaning of disease and impairment, and when they have had demonstrated, through a public clinic, what can be done through organized effort in the treatment of disease and impairment. In short, public organization to care for disease and impairment in an adequate way will follow and never precede professional organization. We shall have organization and cooperation without when we get organization and cooperation within.

PUBLIC HEALTH NEWS ITEMS.

MADISON—Miss Ella F. McGovern, Milwaukee, has been named as the third maternity and infant health center nurse under the Sheppard-Towner act, and will be assigned by the state board to southern counties. Miss Emily I. Elliott, Madison, and Miss Anna McCarthy, Brockton, Mass., graduate of the W. A. T. A. course in public health nursing at Milwaukee, were the first registered nurses to be appointed to these positions.

Miss McGovern, a graduate of the Wisconsin Training School at Milwaukee, was a chief nurse with American units in France, Albania, Serbia and elsewhere. She first served in extra-cantonment work near Waco, Texas. She aided in establishing the first nurses' training school in Slavic countries, and in this work had the constant pa-

tronage of a reigning princess of Albania. She returned to Wisconsin but was recalled in 1920 by the Red Cross for further educational, reconstruction and child welfare work.

Miss Elliott, who will be the public health nurse for southwestern counties, began work in Grant count in September, preparatory to opening of a county maternity and infant health center, and later worked in Green county. At Colby, through the county nurse's efforts, Clark county has established a center on its own volition, being the first county to adopt fully this plan in the federal-state program. Barron county is ready for similar steps.

Dr. Mildred Van Cleve, supervising nurse for maternity and infant health centers, visited Jackson county communities preparatory to the coming of the Child Welfare Special. The Special is now in Juneau county.

Miss Anna Christman of Tony, Rusk county, has been appointed as the first county nurse of Vilas county, with offices at Eagle River. She is a graduate of the course in public health nursing given by the Wisconsin Anti-Tuberculosis association.

Miss Marie Gebhardt has become county nurse of Manitowoc county to succeed Miss Viola L. Nohr, now of La Crosse.

Infantile paralysis, a disease characteristic of the warm summer season, was comparatively uncommon during the past summer, the state as a whole escaping the usual seasonal incidence of this fearful childhood malady. In Dane county, however, there has been a considerable outbreak since August 1, 24 cases being reported in this period, eight of which were in the city of Madison. Of five cases in Dane township, (all in one family), two died. Others were distributed as follows: Mazomanie, 1; Springfield two, 2; Vienna two, 2; Bristol two, 2; Deerfield two, 2 (in same family); Rutland two, 2. Green Lake county reported three cases in the same family.

Tuberculosis in Milwaukee. Dr. Ruhland states that the tuberculosis mortality has dropped from 134 per 100,000 population in 1904 to 52 per 100,000 population in 1921. Dr. Ruhland credits this to the spread of practical information among the people and improved methods of treatment. The drop is a remarkable one and places Milwaukee to the fore among cities having low mortality from the disease.

Two Views of Circumcision. Dr. Alexander Irvine says, "Syphilis stands next to tuberculosis as a cause of death. National circumcision would prevent forty thousand deaths each year in the United States according to the author. Circumcision, through the removal of the foreskin, prevents infections through an abrasion which usually occurs on the foreskin. Upon circumcision, the parts become tough like the skin, and are seldom abraded. The practice of circumcision explains the comparative infrequency of syphilis among the Jews. Dr. Irvine feels that there would be no need for mercury iodine and salversan if the practice of circumcision would become nation-wide.

Replying to the above statements, Dr. M. A. Zoeckler, Daulatabac, Malayir, Persia, testifies in a letter to the Journal of the American Medical Association that circumcision is not a factor in the prevention of syphilitic infection, since in Persia where it is practiced among the Jews and Mohammedans, syphilis is "frightfully common." The impression derived from ten years of practice of medicine in Persia leads him to believe that syphilis is steadily and rapidly increasing.

Mumps is not recognized under the state rules as a placardable disease. Cases are reportable, however, and children with mumps cannot attend school.

In typhoid fever cases, well members of the family may follow their usual vocations and well children can attend school. Strict isolation of the patient is the essential safeguard.

Well members in a home quarantined for smallpox may go about their work or attend school if they submit immediately to vaccination, even though they have recently been successfully vaccinated. The small pox patient must be isolated strictly. A rash following vaccination is not quarantinable unless the individual has smallpox.

Dr. Udo Wile, University of Michigan Medical School warns against instituting vigorous arsphenamine therapy when there are symptoms of liver involvement or cardia regurgitation.

At a meeting of the board of health for the city of Eau Claire on September 22, the question of the control of communicable diseases was discussed and the following resolution passed:

That the superintendent of schools be instructed to require that the teachers attend a certain number of talks by competent men on contagious disease control.

Mr. Darling, superintendent of schools, replied to the effect that at the first meeting twenty minutes had been devoted for one of these talks and that more time would be given from now on. We hope that the example of the city of Eau Claire will be followed in other towns of the state.

Cancer Week—This year cancer week is from November 15 to 18. Dr. J. E. Rush, Field Director for the American Society for the Control of Cancer has been visiting in the state for several days. His purpose here is to get the state organized for the cancer week campaign. Concerning cancer Dr. Rush makes the following statements.

Cancer is now causing about 100,000 deaths per year in the United States. The disease is increasing as shown from the reports of the U. S. Bureau of statistics. In 1900 the cancer rate was 63 per 100,000 and in 1920 the rate was a little over 83 per 100,000, an increase of 32% in twenty years.

Cancer at the present time causes the death of one woman out of every eight over forty years of age and one man out of every 14 over forty years of age. In a great many communities the death rate from cancer has surpassed that from tuberculosis which we used to refer to as the "Captain of Death." The following figures which were given to me by Dr. C. A. Harper of the State Board of Health give a definite idea of the importance of Cancer in Wisconsin.

	Cancer	Tuberculosis (All forms)
1919	2286	2191
1920	2234	2217
1921	2470	1963

While we do not as yet know the ultimate cause of cancer, there are a great many facts that are known to the medical profession which if known to the laity would considerably decrease the incidence of cancer. Among these we might mention that early cancer is curable because it is a localized condition; that cancer is not heredity; that cancer is not infectious or communicable and that early it is not accompanied, usually, with pain.

It is the function of the American Society for the Control of Cancer to affect through a state organization directed by the Medical Profession of the state, an educational campaign to inform the laity that early cancer is not hopeless, but is a curable condition and that knowing the symptoms of early cancer such as the presence of lumps, abnormal bleeding and the like if the laity will make an immediate application to their medical practitioner the disease is curable.

National cancer week this year is from November 12 to 18, and Dr. C. A. Harper is in charge of this campaign in Wisconsin.

Will you not lend your aid to Dr. Harper and this educational movement so that the laity will come to the medical profession early and while there is yet hope of cure?

THE MORTALITY FROM CANCER—The mortality from cancer of the stomach and liver from 1908 to 1912 in the U. S. Registration Area was 59.3 per 100,000 population; 79.8 in Japan; 54 in Italy; 54.6 in Australia; 66.4 in Ireland; 126.9 in Holland; 141.3 in Switzerland; 72.7 in Uruguay; 2.71 in Ceylon and 1.25 in Hongkong.—Journal A. M. A.

CAUSE AND CURE OF HIGH RECTOCELE.

Alfred Baker Spalding, San Francisco (*Journal A. M. A.*, Aug. 26, 1922), employs a technic for the cure of rectocele that might be called proctopexy, although to differentiate it from the older abdominal proctopexy, it would probably better be called colpoproectopexy. This operation is somewhat similar to that described by Bissell, who overlaps the fascia between the rectum and the vagina, as well as those described by Goldspohn and by Frank, who close the levators high between the rectum and the vagina, but it differs in that the rectum is raised on its transverse axis and sutured to the pelvic fascia in the neighborhood of the exposed sacro-uterine ligaments; the sacro-uterine ligaments as well as the levator and muscles then being interposed between the rectum and the vagina.

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SOCIETY PROCEEDINGS

DANE COUNTY

The Dane County Medical Society met October 10 in the rooms of the Association of Commerce, Madison. The evening's program included "Prevention of Goitre," Dr. H. P. Greeley; "Medical Treatment of Goitre," by Dr. L. R. Head, and "Diagnosis of the Diseases of the Thyroid Gland," by Dr. Arnold Jackson.

GREEN LAKE-WAUSHARA-ADAMS COUNTY

The regular meeting of the doctors of Green Lake county and surrounding district met at the Library at Berlin, October 20. The meeting was well attended and Dr. Taylor of Milwaukee delivered an interesting talk on child diseases. Following a banquet at the Hotel Whiting another address was given in the rooms of the Library. This meeting was part of the post-graduate medical course.

MEDICAL SOCIETY OF MILWAUKEE COUNTY.

The regular meeting of the Milwaukee County society was held Nov. 10, at the Public Museum, and the following program presented:

1. Fractures of the Pelvis. Lantern slide demonstration. By. Dr. S. H. Wetzler.
2. Injuries of the Bladder and Urethra in fractures of the pelvis. By Dr. Walter K. Gray.
3. Fractures of the Forearm. Lantern slide demonstration. By Dr. Edward Quick.

MILWAUKEE ACADEMY OF MEDICINE

At the first meeting of the year of the Milwaukee Academy of Medicine held at the Academy, October 24, the following program was given:

1. Presentation of Clinical Cases, Pathological Specimens and Interesting Roentgenograms.
2. A Case of Exopthalmic Goiter with Diabetes (?) in an eleven year old child. Dr. J. Gurney Taylor.
3. Birth Control and Sterility. Dr. C. Henry Davis.
4. Remarks on Foreign Clinics. Dr. F. J. Gaenslen.

MILWAUKEE OTO-OPHTHALMIC

Dr. Robert Barany, professor of otology at the University of Upsalg, Sweden, and formerly of the University of Vienna, made an address Oct. 29 before the members of the Milwaukee Oto-Ophthalmic Society at the county dispensary, Fifth street and Grand avenue, Milwaukee.

More than forty ear and nose specialists of the city and state attended.

Dr. Barany explained to the members his new method of performing a mastoid operation by which he reduces the danger of impaired hearing, and other surgical and medical treatment for diseases of the auditory tract.

WINNEBAGO COUNTY.

Fifty-four members of the medical profession from cities throughout the Fox river valley gathered at the Valley Inn at Neenah as guests of the Twin City Medical society. The feature of the meeting was the presence of Dr. F. J. Gaenslen, Milwaukee, orthopedic surgeon at the Bradley Memorial hospital at Madison.

NEWS ITEMS AND PERSONALS

Dr. W. S. Waite of Kendall has opened an office in Watertown.

Dr. A. F. Harter, formerly located at Marathon, and who has been attending Cornell University the past eight months taking a postgraduate course, has returned from the university and will locate in Wausau, specializing in eye, ear, nose and throat diseases.

Dr. Creighton McDowell, for the past 20 years a physician and surgeon in Liverpool, England, began the practice of his profession in Beloit October 11, having taken over the office of Dr. Anthony Schmit.

Drs. Thompson and Edwards, physicians and surgeons of Reedsburg have leased office rooms at Baraboo.

Bishop Alexander Joseph McGavick of La Crosse, successor to the late Bishop James Schwebach as head of the diocese of La Crosse, celebrated his first visit to Eau Claire by dedicating the beautiful new chapel at the Sacred Heart Hospital, which the Franciscan Sisters recently completed.

Miss Agnes Reid, Madison, was re-elected president of the State Nurses' Association, in joint session with the annual meeting of the Wisconsin state organizations for nurses.

Druggists filling forged prescriptions are liable criminally under the Severson prohibition enforcement statute, Judge George Grimm of the twelfth Wisconsin circuit ruled in deciding the action of the state against Matthew Baldwin, a Watertown druggist.

Dr. Robert B. Cunningham, Cadott, appointee of Gov. Blaine as a member of the state board of medical examiners, lost the first step in the court battle brought to cause his removal from office on the ground that the governor had failed to comply with the statutes in appointing him. Judge James Wickham, of the nineteenth Wisconsin circuit, overruled a demurrer interposed by Dr. Cunningham to the complaint of the state, alleging that Gov. Blaine had violated the law by naming a man to the board of medical examiners whose name had not been certified by one of three medical associations of the state. R. M. Hoyt, deputy attorney general prosecuting the case, said the court had given Dr. Cunningham 10 days to file an answer to the complaint in order to bring the case to trial. Otherwise a court

order would be entered removing him from office. Dr. Cunningham was appointed in October, 1921, to replace Dr. Oscar Lotz, Milwaukee.

President Harding and Director Forbes of the United States veterans' bureau said post-graduate schools on tuberculosis and neuro-physcriatic cases will be established for veterans' bureau doctors.

The Methodist Hospital Association has filed a claim with the probate court of Chippewa county against the estate of the late Judge R. D. Marshall, the claim being filed recently. The claim asserts that the $500,000 was given to the Association on May 8, 1922, by the late judge, prior to his death. The hospital association is in possession of a legal document signed by Judge and Mrs. Marshall, giving them this amount as an endowment fund, to be deducted from his estate, which inventoried nearly a million dollars.

Dr. George H. C. Hoyer has located in Beaver Dam. Dr. Hoyer has served for the past year as interne at the Evanston hospital.

Dr. C. C. Gratiot, 76, dean of Lafayette county medical fraternity, and for over 50 years an active practicing physician and surgeon of Shullsburg, is seriously ill. He is a veteran of the Civil War.

Dr. Paul S. Epperson has resigned his position as Roentgenologist at the Jackson Clinic in Madison, and has moved to Milwaukee where he will practice his specialty with offices in the Wells Bldg. Dr. Epperson has recently been appointed chief of the X-ray department of St. Mary's Hospital in Milwaukee.

Dr. Albert J. Ochsner of Chicago was elected president of the American College of Surgeons at a meeting in Boston. Dr. Franklin H. Martin of Chicago was chosen as director general.

Dr. G. A. McLane recently opened an office in Lyons.

The new St. Mary's Ringling hospital at Baraboo, the gift of Mrs. Della Ringling and her son Richard, was opened on Thursday, Nov. 9. A large committee of Baraboo citizens arranged a program which included a banquet at St. Joseph's school auditorium and a reception at the new hospital.

Improvements are being made upon Columbia hospital, Milwaukee, that will cost more than $100,000 according to Fred Sivyer, president of the board of directors. It was decided at a directors' meeting that money should be borrowed to pay for certain of these improvements. The improvements include an addition to the hospital, to contain 18 additional beds. The hospital now contains 72 beds. "These new accommodations," said Mr. Sivyer, "are necessary because the hospital turns from 6 to 12 persons away every day." Nurses will also be provided with better quarters.

Dr. John R. McDill, formerly of Milwaukee, has been appointed General Medical Consultant to the Director of the U. S. Veterans' Bureau. The duties of the General Medical Consultant will be to keep in touch with the medical affairs of the country in general and of the U. S. Veterans' Bureau in particular; to develop for, and to suggest to the Director, plans and policies for the Bureau and such other duties as the Director may prescribe from time to time.

A letter received from Mr. John M. Goetzinger of Milwaukee gives the following interesting information "Dr. Wm. Jobse has been our family doctor for four generations, attending my father, Martin Goetzinger, the writer, Mrs. A. G. Schulenberg, daughter of the writer, and her two children. This is remarkable, due to the fact that Dr. Jobse is still in very good health and full of 'pep'."

Dr. G. I. Hogue of Milwaukee has been promoted to the grade of Colonel, Medical Officers Reserve Corps and assigned to command of the 326th Medical Regiment, 101st Division.

A verdict of guilty and an assessment of damages aggregating $14,951 against Dr. H. T. Brogan, West Allis, was the finding recently of a circuit court jury in the malpractice suit instituted against the physician by Fred Kasten. Brogan, it was charged, attended Kasten's wife during childbirth and, through alleged negligence in a minor operation at the time, extracted 28 feet of intestines, the woman dying shortly after.

Dr. Percy Brown, recently instructor of Roentgenology at Harvard Medical school, Boston, has taken charge of the X-ray and radium department at the Jackson Clinic, Madison. Dr. Brown is one of the pioneer workers of the X-ray field in America and in 1911 was president of the American Roentgen Ray society. While at Boston Dr. Brown was Roentgenologist at Carney hospital, St. Elizabeth hospital, Long Island hospital, Boston Children's hospital and the Boston Infants' hospital.

Dr. R. A. Walker of Menominee, Mich., has left that city for Lansing, Mich., where he will take over the practice of Dr. Harry A. Wilson. Dr. Kaye has taken over the practice of Dr. Walker at Menominee.

The city of Tomah will have a hospital under city management made possible by an ordinance providing for rehabilitation of the old Simonson hospital property.

Dr. C. Rice of Delevan has left that city and has located at Poplar Grove, Ill.

Dr. Robert G. Patterson of Columbus, Ohio, was elected president of the Mississippi Valley Conference on Tuberculosis, and Evansville, Ind., selected as the next convention city at the meeting held October 10. Other officers elected were Mrs. Theodore B. Saons of Chicago, vice-president, and James Minnick, Chicago, secretary and treasurer. Dr. Patterson was vice-president of the conference during the last year.

Three resolutions were adopted at the business session Tuesday afternoon favoring—

First, more general and extensive use of sanatoria as training centers for rehabilitation of former service men and more systematic health.

Second, better instruction in the schools with courses for teachers in normal schools.

Third, continuance and extension of modern health crusades.

H. H. Jacobs, president of the Wisconsin Anti-Tuberculosis Association was re-elected for the next year at the annual meeting of the association at the Hotel Pfister.

DEATHS.

Dr. Anthony I. Schmit, 59, for 19 years a practicing physician in Beloit, died Oct. 9, at his home after a seven months' illness. Dr. Schmit was born in Luxemburg and was educated in Strassburg, Heidelburgh and Munich. Coming to the United States, he practiced at Oconto and Sharon, coming to Beloit in 1903.

William E. Durr, 57 years old, was found dead in his bed at Milwaukee hospital with a revolver bullet through his brain on Oct. 29. Dr. Durr, who had been suffering from heart disease for six months and other illnesses for three years, had been at the hospital since he returned from a trip to California, six months ago. He had often complained of his state of health while at the hospital and was subject to periods of despondency.

VALUE AND LIMITATIONS OF ROENTGEN-RAY DIAGNOSIS IN DIGESTIVE DISEASE.

Ernest H. Gaither, Baltimore (*Journal A. M. A.*, Aug. 19,1922), cautions against placing too much reliance on the roentgen ray as a means of diagnosis of gastro-intestinal diseases. There are cases in which the diagnosis cannot be made without the use of the roentgen ray; cases in which the roentgen ray can be regarded only as confirmatory; cases in which the diagnosis cannot be made by the roentgen ray, but can be made by a careful history and clinical investigation, and bases have been diagnosed incorrectly by the roentgen ray, as shown by the subsequent history. The number of cases in the first group, Gaither says are very few in number, such as esophageal diverticulum, hour-glass formation of the stomach, foreign bodies, diaphragmatic hernia, functional capacity of postoperative openings, atomy, hypertonicity, pylorospasm and hyperperistalsis, accompanied by hypermotility, delayed evacuation or obstruction, the anatomic location of various gastric lesions. In those unusual instances of benign tumors with markedly atypical digestive syndromes, roentgenology is often the only means of establishing the presence of the growth. Undoubtedly the most dependable and striking findings through the use of the roentgen ray are encountered in the small intestine, notably in connection with duodenal ulcer. In a confirmatory rôle the roentgen ray is possessed of its greatest diagnostic asset. As an agent merely confirmatory, in lesions of an obstructive nature (organic or spastic, intrinsic or extrinsic in origin) in this portion of the digestive tract, roentgenology plays its most important rôle. In the majority of these cases, after dysphagia has directed our attention to the esophagus, and the introduction of a bougie has localized the site of the obstruction, it is not at all unusual, through clinical investigation, to determine definitely whether the lesion is organic and malignant in nature. However, the character of the lesion may in a considerable number of cases be unquestionably established by the fluoroscope and roentgenograph. Gaither cannot subscribe to the view that "in the detection of cancer of the stomach the roentgen ray takes precedence over all other methods." As a matter of fact, the vast majority of cancer cases are diagnosed before roentgen-ray study. When a filling defect is demonstrable by the roentgen ray, the pathologic lesion has already been discovered clinically; also in a large percentage of such cases it is too late for successful operative interference. When the diagnosis based on history, physical examination and clinical findings differs from the roentgen-ray diagnosis, Gaither says he does not take the latter too seriously. He is firmly convinced that most roentgen-ray manifestations are the result of those gross structural changes which come in the late stages of disease; on the other hand, a negative roentgen-ray findings does not by any means definitely rule out organic change. He sounds a warning as to the need of conservatism and of a well-balanced point of view which properly evaluates the findings by all the methods of investigation. No diagnosis should be made on one symptom; ergo, no diagnosis should be made by one method alone, and that mechanical. In this, as in all other fields of human endeavor, the best and most accurate results are to be obtained through cooperation. "Teamwork" is and should be the slogan of the hour.

CARBON DIOXID GAS INFLATION.

Transuterine and transabdominal carbon dioxid gas inflation for diagnostic purposes, Roland S. Cron, Ann Arbor, Mich. (*Journal A. M. A.*, Aug. 26, 1922), says, can be safely used. Transuterine inflation will reveal the patency or nonpatency of the fallopian tubes. Bimanual examination is not sufficiently accurate to diagnose correctly the true condition of the lumina of the tubes. Manometer readings of more than 150 mm. of mercury during transuterine inflations usually signify obstruction to the inflow of gas through the tubes, most commonly due to a salpingitis. This interpretation should be especially so considered if the gas enters only after repeated attempts. More than 50 per cent of the sterile patients had closed tubes, a higher percentage than is usually credited to this factor. Stereoscopic roentgenography of the pelvic organs is more accurate than bimanual examination. Especially is this true in those cases in which palpation is unsatisfactory. Fallopian tubes with constricted or obstructed lumina at either the proximal or distal ends may be dilated sufficiently by the gas to permit the passage of an ovum.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Diseases of Women. By Harry Sturgeon Crossen, M. D., F. A. C. S. 5th Edition, Revised and Enlarged, with 934 engravings, including one color plate. C. V. Mosby Co., St. Louis. 1922. Price $10.00.

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod. 4th Edition, with 243 illustrations, including nine color plates. C. V. Mosby Co., St. Louis. 1922. Price $11.00.

Physical Diagnosis. By W. D. Rose, M. D. 3d Edition. 319 illustrations. C. V. Mosby Co., St. Louis. 1922. Price $8.50.

Syphilis. By Burton Peter Thom. Illustrated with 69 engravings. Lea & Febiger. Philadelphia and New York. 1922. Price $5.50.

Injury, Recovery and Death. In Relation to Conductivity and Permeability. By W. J. V. Osterhout. Philadelphia and London. J. B. Lippincott Co. Price $2.50.

A Young Girl's Diary. Prefaced with a letter by Sigmund Freud. New York. Thomas Seltzer. 1921. Price $5.00.

Bronchoscopy and Esophagoscopy. By Chevalier Jackson, M. D., Professor of Laryngology, Jefferson Medical College, Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Octavo of 346 pages with 114 illustrations and 4 color plates. Philadelphia and London. W. B. Saunders Company. 1922. Cloth $5.50 net.

The Elements of Scientific Psychology. By Knight Dunlap. Illustrated. C. V. Mosby Co., St. Louis. 1922. Price $3.50.

Bibliography of Hookworm Disease. The Rockefeller Foundation, International Health Board, New York City.

The Rockefeller Foundation, Annual Report, 1921. The Rockefeller Foundation, 61 Broadway, New York.

An Outline of the Pirquet System of Nutrition. By Dr. Clemens Pirquet, Professor of Pediatrics at the University of Vienna, Austria. 16mo of 96 pages. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, $2.00 net.

A Text-Book on Minor Surgery. By C. Vaughn, M. D., and Athel Campbell Burnham, M. D. Illustrated with 459 engravings. Lea & Febiger, Philadelphia and New York. 1922.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D. 3d Edition. Illustrated with 129 engravings and 28 plates. Lea & Febiger, Philadelphia and New York. 1922. Price $8.50.

The Evolution of Public Health Nursing. By Annie M. Brainerd, Editor of the "Public Health Nurse," Lecturer on Administration of Public Health Nursing in Western Reserve University. 12mo of 454 pages, illustrated. Philadelphia and London. W. B. Saunders Co. 1922. Cloth, $3.00 net.

Lectures on Dietetics. By Max Einhorn, M. D., Emeritus Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. 12mo of 244 pages. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $2.25 net.

Animal Parasites and Human Disease. By Asa C. Chandler, M. D., Ph.D. 2d Edition, revised. New York. John Wiley & Sons, Inc.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M. D. 4th Edition, with 172 illustrations. Philadelphia. P. Blankiston's Son & Co. 1922.

A Manual of Pharmacology and Its Application to Therapeutics and Toxicology. By Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. 2d Edition, Entirely Reset. Octavo of 1,066 pages. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth Edition, Revised. Octavo volume of 749 pages, with 1,252 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Polished Buckram, $8.50.

Clinical Medicine: Tuesday Clinics at the Johns Hopkins Hospital. By Lewellyn F. Barker, M. D., LL.D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns Hopkins Hospital, Baltimore, Md. Octavo of 617 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. VI, Number 1, July, 1922. By St. Louis Internists. Octavo of 203 pages and 61 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

Othalmoscopy, Ritnoscopy and Refraction. By W. A. Fisher, M. D., F. A. C. S. Chicago. 240 illustrations including 48 colored plates. Published by W. A. Fisher, M. D., 31 No. State St., Chicago. 1922. Price $4.00.

Hughs' Practice of Medicine. 12th edition. By R. J. E. Scott, M. D. 63 illustrations. Philadelphia. 1922. P. Blakiston's Son & Co.

Labrador—The Country and the People. By Wilfred T. Grenfell, M. D. New Edition, Revised. The MacMillan Co., New York. 1922.

Endocrine Glands and the Sympathetic System. By P. Lereboullet and others. Translated by F. R. Mason, M. D. Philadephia and London. J. P. Lippincott Company.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M. D. With a chapter on Hospital Management of Goiter Patients. 106 original illustrations. St. Louis. C. V. Mosby Company. Price $5.00.

The Psychology of Thought and Feeling. By Charles Platt, M. D. (London) New York. Dodd, Mead and Company. 1921.

The Habit of Health. By Oliver Huckel. New York. Thomas Y. Crowell Company. Price $1.00 net.

Clinical Diagnosis and Symptoms. By Alfred Martinet, M. D. (Paris) Translated by Louis T. deM Sajous. 895 engravings and color plates. Volumn II. **Analysis of Symptoms.** Philadelphia, F. A. Davis Company. 1922.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D. 5th Edition, revised and enlarged. 151 Half tones with 93 full page plates. Philadelphia. F. A. Davis and Company. 1922.

The Trend of the Race. By Samuel J. Holmes, Ph. D. New York. Harcourt, Brace and Co., New York. 1921.

Obstetrics for Nurses. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. New (6th) Edition, entirely reset. 12mo of 525 pages, with 245 illustrations. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $3.00 net.

Principles and Practice of X-ray Technic for Diagnosis. By John A. Metzger, M. D. 61 illustrations. St. Louis. C. V. Mosby Company. $2.75.

Diseases of the Skin. By Henry H. Hazen, M. D. 2nd Edition. 241 Illustrations. 2 Color Plates. C. V. Mosby Company, St. Louis. 1922. $7.50.

The Surgical Clinics of North America (Issued serially, one number every other month). Volume II, Number III (Chicago Number June 1922) 289 pages, with 89 illustrations. Per clinic year (February, 1922 to December, 1922). Paper $12.00 net; Cloth $16.00 net. Philadephia and London: W. B. Saunders Company.

The Surgical Clinics of North America (Issued serially, one number every other month). Volume II, Number IV (Boston Number August 1922), 270 pages, with 107 illustrations. Per clinic year (February, 1922 to December, 1922). Paper $12.00 net; Cloth $16.00 net. Philadelphia and London: W. B. Saunders Company.

BOOK REVIEWS

Diseases of Women. By Harry Sturgeon Crossen, M. D., F. A. C. S. 5th Edition. Revised and Enlarged, with 934 engravings, including one color plate. C. V. Mosby Co., St. Louis. 1922. Price $10.00.

Dr. Crossen has entirely revised the previous edition of a most important text on diseases of women. The advances in X-Ray and radium therapy for malignant disease, together with the developments in pelvic X-Ray diagnosis have been considered at length. The new work pays especial attention to pathology and the differentiation between physiological and pathological changes. Illustrating these we find a splendid series of photomicrographs collected from material in the laboratory of the Washington University Medical School. Advances in endocrinology as it relates to gynecologic infections has been written by Dr. Hugo Ehrenfest. Dr. Crossen's new work is a credit to the author.

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod. 4th Edition with 243 illustrations including nine color plates. C. V. Mosby Co., St. Louis. 1922. Price $11.00.

A detailed review of this excellent work was published in the Journal within the last two years. During that time the author has made a painstaking revision of each chapter so as to incorporate as much as possible of what has been added to a rapidly advancing physiological knowledge. Chapters on the output of the heart; the conditions causing alterations in the acid base equilibrium of the blood; the normal electrocardiogram and the movements and emptying of the stomach have been entirely rewritten. Most interesting new work on intracardiac pressure; the capillary circulation; the mechanism of adaptation to mountain sickness; pancreatic diabetes, etc., has been incorporated. Several of the figures appearing in earlier editions have also been replaced. This is an exceptional work and deserving of highest praise.

Physical Diagnosis. By W. D. Rose, M. D. 3rd edition. 319 illustrations. C. V. Mosby Co., St. Louis. 1922. $8.50.

The second edition of this book was highly praised in a review article in the Journal some two years ago. In comparing the third edition Dr. Rose has revised the section dealing with physical examination of the circulatory system and much additional material on this subject has been incorporated. The chapter on blood pressure too has been entirely rewritten. Many of the illustrations shown in the two previous editions have been eliminated and new illustrations have been added. Polygraphy has been treated with greater detail, and a chapter dealing with electrocardiography and the diagnosis of the cardiac arrhythmias has been contributed by Dr. Drew Luten of Washington University. The excellent second edition has been materially improved.

Syphilis. By Burton Peter Thom. Illustrated with 69 engravings. Lea & Febiger. Philadelphia and New York. 1922. Price $5.50.

Dr. Thom has given us a most interesting and complete work on the subject of syphilis, beginning with the history of the disease, carrying chapter headings through its various stages, complications and involvement of special parts, to treatment. The author has discussed the disease as it confronts the physician in his work of every day, and has succeeded in telling it simply so the reader can come to the major facts easily and quickly. It is an excellent work deserving of a permanent and lasting place in texts on the subject.

Injury, Recovery and Death, In Relation to Conductivity and Permeability. By W. J. V. Osterhout. Philadelphia and London. J. B. Lippincott Co. Price $2.50.

This is an interesting study published as one of Lippincott's Monographs on Experimental Biology. The volume treats of certain aspects of biology according to the spirit and methods of the exact sciences. These studies lead to a theory of some aspects of injury, recovery and death, as well as antagonism and permeability. After an introduction the author takes up the program of methods of measuring electrical conductivity, the mechanism of the process of death, injury and recovery, antagonism, anesthesia, conductivity and permeability, with a bibliography.

A Young Girl's Diary. Prefaced with a letter by Sigmund Freud. New York, Thomas Seltzer. 1921. $5.00.

Here is a psychological document which is a piece of true literature. In the pages of this book there lives a little girl—the author—telling her innermost thoughts from the age of eleven to fourteen. They convey the fleeting impressions and passions of childhood as it merges into adolescence. It is an autobiography, but is full of dramatic interest and the little author has an artist's gift for expression. Dr. Freud in his preface states, "This diary is a gem. Never before, I believe, has anthing been written enabling us to see so clearly into the soul of the young girl, belonging to our social and cultural stratum, during the years of puberal development."

Bronchoscopy and Esophagoscopy. By Chevalier Jackson, M. D., Professor of Laryngology, Jefferson Medical College, Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Octavo of 346 pages with 114 illustrations and 4 color plates. Philadelphia and London: W. B. Saunders Company, 1922. Cloth $5.50 net.

This book is based on an abstract of the distinguished author's larger work, Perroral Endoscopy and Laryngeal Surgery, and was prepared under the author's direction by a reader, in order to get a reader's point of view on the presentation of the subject in the earlier book. With this abstract as a starting point, the author has accomplished the difficult task of presenting by written word the various purely manual endoscopic procedures. It is a splendid work on the subject, and is beautifully printed and illustrated.

The Elements of Scientific Psychology. By Knight Dunlap. Illustrated. C. . Mosby Co., St. Louis. 1922. Price $3.50.

No psychologist could be better fitted to write a text on the elements of scientific psychology than Knight Dunlap of Johns Hopkins University. It may be difficult reading for beginners, especially the first chapter, but in that case the student should return to the first chapter later and study it carefully, as it contains the essential scheme of scientific psychology. Primarily written for college students, it is a book designed to be of assistance to men in various professions who wish to become conversant with the subject. One thing it has accomplished—a means of obtaining an introductory knowledge on safe ground, and this can not be said of many works of like character.

Bibliography of Hookworm Disease. The Rockefeller Foundation, International Health Board, New York City.

Publication No. 11 is a complete bibliography of hookworm disease, some four hundred pages published in paper cover.

The Rockefeller Foundation, Annual Report. 1921. The Rockefeller Foundation, 61 Broadway, New York.

A complete report in four hundred pages of the activities of the Foundation for the year 1921, illustrated.

An Outline of the Pirquet System of Nutrition. By Dr. Clemens Pirquet, Professor of Pediatrics at the University of Vienna, Austria. 16mo of 96 pages. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $2.00, net.

Pirquet's System of Nutrition is a small volume of one hundred pages which has been written, using the author's lectures at Yale University in the Winter of 1921-22 as a basis, to which has been added a complete Bibliography of the new values of foodstuffs, and a table of Pelidisi Indices. It gives the essentials of the distinguished Austrian author's work, published in German in 1917, in four volumes.

A Text Book on Minor Surgery. By C. Vaughn, M. D., and Athel Campbell Burnham, M. D. Illustrated with 459 engravings. Lea & Febiger, Philadelphia and New York, 1922.

Minor surgery has probably made as great advances in the last decade as any branch of medicine. The industrial clinic, compensation insurance, the use of local anesthesia, etc., have been largely responsible for this. Here is a work intensively practical, which will appeal to not only the surgeon, but the general practitioner and country doctor as well. It would be impossible to give it a detailed discussion in this column, but the reader is assured of its value, and it deserves a place in the library of every general practitioner.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D. 3rd edition. Illustrated with 129 engravings and 28 plates. Lea & Febiger, Philadelphia and New York, 1922. Price $8.50.

Two editions of Dr. Fishberg's work have been exhausted within five years, which attest the cordial reception it has received. The third edition has been extensively revised; two new chapters, one on the Reciprocal Relations between Pulmonary Tuberculosis and Certain Physiological and Pathological Processes, and another on the Medical-legal and Insurance aspects of Tuberculosis have been added. Many of the older chapters have been entirely rewritten. New sections have been included on Acute Miliary Tuberculosis, Scrofula, Myoidema, the Autonrine Test, Phototherapy, Artificial Immunization, etc. The illustrations which include roentgenograms are especially fine.

The Evolution of Public Health Nursing. By Annie M. Brainerd. Editor of the "Public Health Nurse," Lecturer on Administration of Public Health Nursing in Western Reserve University. 12mo of 454

pages, illustrated. Philadelphia and London: W. B. Saunders Co., 1922. Cloth, $3.00, net.

This is the story of a great movement, not so much a history as an account of the origin of the work, its evolution, and the causes which underlie its development. It is interestingly written and well illustrated, and will be of especial interest to public health workers and to the nursing profession in general.

Lectures on Dietetics. By Max Einhorn, M. D. Emeritus Professor of Medicine at the New York Post Graduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. 12mo of 244 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $2.25, net.

This is an excellent little work on dietetics, being the author's lectures on the subject, delivered at the New York Post Graduate Medical School and Hospital. It is a work which will be of interest to the physician and nurse, and should certainly be in the library of every hospital.

Animal Parasites and Human Disease. By Asa C. Chandler, M. D., Ph. D. 2d edition, revised. New York. John Wiley & Sons, Inc.

The author, who is instructor in biology at the Rice Institute, has given us a second edition of his most valuable work on Animal Parasites. It is divided into three general parts covering Protozoa, Worms, and Arthropods. It is an excellent text for the physicians' library, or the college classroom, and should be made available to the general reader through the general libraries of the country—for the public should have more reliable information on this subject. Professor Chandler is to be congratulated on his interesting presentation.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M. D. 4th Edition with 172 Illustrations. Philadelphia. P. Blankiston's Son & Co., 1922.

Here is a most important subject to every practitioner, a subject too frequently overlooked by those who see these defects daily and neglect them. Dr. Lovett of Harvard has entirely revised the previous editions, eliminated methods of treatment which have fallen into disuse or have proven inadequate. He has shortened and simplified certain portions of the book, and has added much new material. This little work of only two hundred pages should be in the library of every surgeon and general practitioner.

A Manual of Pharmacology and Its Application to Therapeutics and Toxicology. By Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. 2d edition, entirely reset. Octavo of 1066 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $7.00, net.

This is a volume for study and reference. It is happily arranged so that the broad conceptions and generalizations of pharmacology are printed in larger type, while the large list of minute details which would constitute too great a tax on human memory, but which can not be safely neglected, appear in smaller print. Side headings too have been introduced to make easier the study of the subject. It would be difficult to conceive of any improvement being made on this standard text.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth edition, revised. Octavo volume of 749 pages, with 1252 illustrations. Philadelphia and London W. B. Saunders Company. 1922. Polished Buckram, $8.50.

Scudder's Treatment of Fractures is too well known to require extended comment in these columns. It has properly been the accepted text for many years, but it has been six years since the last edition was printed and during this time the World War has brought about new principles and procedures. The ninth edition just issued brings the work thoroughly up to date, and no surgeon or general practitioner's library can be complete without it. It is most attractively bound and illustrated, and from the book-maker's standpoint is a work of art.

Clinical Medicine, Tuesday Clinics at the Johns Hopkins Hospital. By Lewellys F. Barker, M. D., LL. D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns Hopkins Hospital, Baltimore, Md. Octavo of 617 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1922. Cloth, $7.00, net.

The whole American medical profession will welcome an opportunity to secure the clinical teaching of the distinguished professor of medicine at Johns Hopkins in book form, and Dr. Barker's decision to publish his clinics can be acclaimed as the most important development in clinical teaching of the year, so far as the general profession of the country is concerned. It is indeed most welcome and it is to be regretted that space does not allow of a more lengthy review. The first volume comprises some six hundred pages, and as an indication of the scope of the clinics, they cover subjects under such general headings as Infectious Diseases, Diseases of the Respiratory Apparatus, Circulatory Diseases, Diseases of the Blood, Digestive Apparatus, Urogenital System, Diseases of the Muscles, Joints and Bones, of the Nervous System, of Metabolism, and of the Glands of Internal Secretion. May we express the hope that Dr. Barker will publish his clinics annually.

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FIBROSIS OF LUNG FOLLOWING ROENTGEN-RAY TREATMENTS FOR TUMOR.

Two cases of secondary lung tumors treated with roentgen rays are cited by Laurence E. Hines, Chicago (*Journal A. M. A.*, Aug. 26, 1922), who is of the opinion that they may throw some light on the effect of irradiation on the normal lung and on tumors of the lungs. In Case 1, a spindle-cell sarcoma with lung metastasis, roentgen-ray treatment was given according to the newer method of higher voltage, greater filtration and longer target distance. At first there was improvement in the patient's condition; but, during the last series of treatments, symptoms of respiratory distress developed, and several days later death occurred. All parts of both lungs, postmortem, were consolidated from proliferation of connective tissue in the alveolar wall, with resultant great decrease in air space, which accounts for the dyspnea and cyanosis, and might be considered as the immediate cause of death. In Case 2, carcinoma of the breast with pleural and lung metastasis, only a limited amount of roentgen-ray treatment was given, and no large amount at any one time. As in Case 1, cyanosis and dyspnea were prominent symptoms, and the gross appearance of the lungs was similar in the two cases; but microscopic examination disclosed that the consolidation was due to a diffuse infiltration of the lung tissue with islands of carcinoma. Therefore, the dyspnea and cyanosis and the cause of death may be attributed to the extensive growth of tumor in the lungs. However, the hyperplasia of connective tissue about the islands of carcinoma in the lung may have been the result, at least in part, of irradiation.

STATE UNIVERSITIES AND HOMEOPATHY.

In the past, several state universities, in response to political clamor, established departments of homeopathy and even of eclectic medicine in addition to their regular colleges of medicine. At the University of Nebraska, both homeopathic and eclectic departments were established in 1883. The eclectic department became extinct, however, in 1885, and in 1887 the university ceased to teach medicine altogether when the regular and homeopathic departments also were closed. The university did not resume the teaching of medicine until in 1902, when the present college of medicine was established. The homeopathic department was established at the University of Michigan in 1887; at the State University of Iowa in 1878; at the University of Minnesota in 1889, and at the Ohio State University in 1915. Thus each of these universities had two colleges of medicine and two groups of medical students. With the devolpment of laboratory instruction, the students of the two colleges were taught together during the first two years by the professors of the college of medicine, but in the clinical subjects they were taught in two separate departments. There was a duplication in the instruction in the clinical subjects, therefore, in addition to the courses in materia medica and practice—the only subjects in which different points of view were held by the two colleges. Another irregularity arose when the colleges of medicine increased their requirements for admission to two years of college work, while the homeopathic colleges in three of the universities continued to require only a high school education or, later, one year of college work. Thus, during the first two years the classes in medicine included students admitted on two different grades of entrance qualifications. At the University of Minnesota, however, the higher entrance requirements were put into effect in the two colleges in the same year and within the next few years the enrolment in the homeopathic college dropped to so small a number that the college was abolished by the board of regents, and elective chairs in homeopathic materia medica and practice were established. This happened in 1909. Similar action was taken at the State University of Iowa in 1919, and during the present summer at the Michigan and Ohio State universities. At the Ohio State University, however, there are no elective chairs in homeopathic materia medica and practice. It was a glaring inconsistency for any reputable university to enter on the teaching of scientific medicine and at the same time establish a college to furnish instruction which was avowedly based on an unproved and narrow theory. It is encouraging, therefore, that all of our great universities have abandoned the support of any form of sectarian medicine and are leaving their medical teachers free to adopt and make use of any method or agency which, on due investigation, is found to be of value in the diagnosis, treatment or prevention of human diseases.—*Jour. A. M. A.*, Aug. 19, 1922.

AN ANALYSIS OF A SERIES OF CASE RECORDS RELATIVE TO CERTAIN PHASES OF BREAST FEEDING.

The study reported by Henry Dietrich, Los Angeles (*Journal A. M. A.*, July 22, 1922), is based on a series of 1,000 records of almost consecutive cases seen in private practice. Three hundred and seventy, or 37 per cent, of these infants were nursed at the breast three months or less, and 402, or 40 per cent, were nursed eight months or more. Nine per cent of these mothers deprived their children of their natural food within eight days of birth. Ablactation was allowed in 139 nursings before they were four weeks old. In only eighty-four cases was complemental feeding advised and given. Practically all others stated that the child was weaned without an effort being made to estimate the quantity of breast milk. In eighty-three cases two or more bottles were substituted for breast feedings. In 720 cases, or 72 per cent, the infant was given a modified cow's milk without the addition of a proprietary food. Thirty-six infants were fed on goat's milk. Of 337 infants, ninety-five were weaned because of insufficient milk or insufficient gain. Dietrich urges that each and every physician should be as ardent an advocate of breast feeding as he is of the surgical care of appendicitis, with the full realization that, in advocating and carrying on breast feeding, he is practicing preventive medicine in the supreme sense of the word.

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ORIGINAL ARTICLES.

THE CHALLENGE OF THE CHRONIC PATIENT TO THE MEDICAL PROFESSION.*

BY LLOYD T. BROWN, M. D., F. A. C. S.

ASST. ORTHOPAEDIC SURGEON, MASS. GENERAL HOSPITAL, BOSTON, MASS.

The subject of the symposium on the program is "one of especial interest, partly because of the great reproach which chronic medicine represents to our profession, and partly because it seems in a gathering such as this, made up of men of eminence in many different lines, that the subject might be discussed with such breadth that a better understanding of chronic medicine might be reached or at least a more determined effort made to secure such an understanding. Another reason for interest in this subject is the appeal for relief which has come from the great number of patients afflicted with chronic disease seen by those of us who are dealing with the chronic patient, and our realization that each year more and more of these sufferers are turning away from our own profession to irregular practitioners, or to members of various cults for such relief as is possible."

The above paragraph was taken almost word for word from an address given last October by Dr. Goldthwait† of Boston. Dr. Goldthwait would have been here to speak to you today if it had been possible for him to have made the arrangements. Since he could not come it is my pleasure to give to you the impressions that have been derived from more than a dozen years of the most intimate association with him and his work.

That the profession has very little real interest in chronic medicine is obvious not only from the present day organization of our hospitals, but in the study of the textbooks of medicine or surgery as they exist today. The small amount of space allotted to this great branch of our work means lack of interest or lack of knowledge of the diseases or the lines of investigations to obtain such knowledge. The organization of our hospitals is such at the present time that we take patients to them for the purpose of carrying out the elaborate studies which the advancement in technique, accomplished in the last decade, has made possible. When these studies have been completed we are expected to move the patient along in order to make room for other patients on whom similar or more elaborate examinations may be made. At their discharge the patients are given many sheets of most carefully written papers showing the results of the various tests, a very large number of which in the chronic conditions are often negative, and are sent away with a more or less hopeless or indifferent prognosis or are told that the condition is entirely a functional one, which will get well if they get away for a change or a rest. Our hospitals, our nurses and our own profession are not trained to know how to look after this type of patient. Our own training has lacked that which might have made the treatment of this type of patient so interesting.

As we read our journals of the day we are finding that many of the chronic conditions are due not to pathology, as shown by the many negative examinations, but are due to disturbed physiology. Therefore the chemistry of the normal physiology as well as of the disturbed physiology is becoming of more and more importance. We therefore must look to the physiological chemists to tell us of these things, and it is necessary for them to be more closely associated with the clinical side of medicine in order that they may see the problems confronting the clinical men and by the appreciation of these problems be able to do work which will be more directly useful to the clinician.

In the chemistry of the normal physiology as well as that of disturbed physiology it is necessary for the physiological chemist as well as the physician to take into account the anatomic structure as well as the general appearance of the patient. The basic principle in the study or teaching of medicine has always been the proper foundation in anatomy. This teaching has been given with

†Goldthwait, Boston M. & S. J., Jan. 12, 1922.

*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 7, 1922.

rare exceptions on the basis of one human type to which all must conform. I should like to quote again from the address by Dr. Goldthwait in which he says: "It should cause little surprise that so little advance has come in the knowledge or treatment of chronic diseases when the great variations from this textbook normal are appreciated, and when, in so far as my own experience is concerned, practically none of the cases of chronic disease are of this normal structure. Not only do individuals vary in structure—muscles, bones, viscera and potentials of activity—but with considerable regularity such structure carries with it its own potential of disease."

There are, as can be seen in Figure 1, three distinct types of the human animal that are at the extremes as different as the St. Bernard dog is from the greyhound. Each extreme and each of the intermediate forms may, however, for its type be just as perfect a human machine as any other when judged on its own standard. In other words, in examining our patients we must, first of all, classify the patient as to his or her type. Is he of the thin type with the long body and relatively narrow trunk, or is he of the heavy type with the short thick-set body, or is he of the neutral type with tendencies toward one or the other extreme?

Figure 1.

The three types of human anatomy. The Thin—The Neutral—The Heavy. These three individuals are using their bodies in almost perfect body mechanics. They have been shown how to do so.

Having decided the type, the next point is the question of the mechanics of the body. Is the patient using his body as are those individuals in Figure 1 or in Figure 2? If those in Figure 1

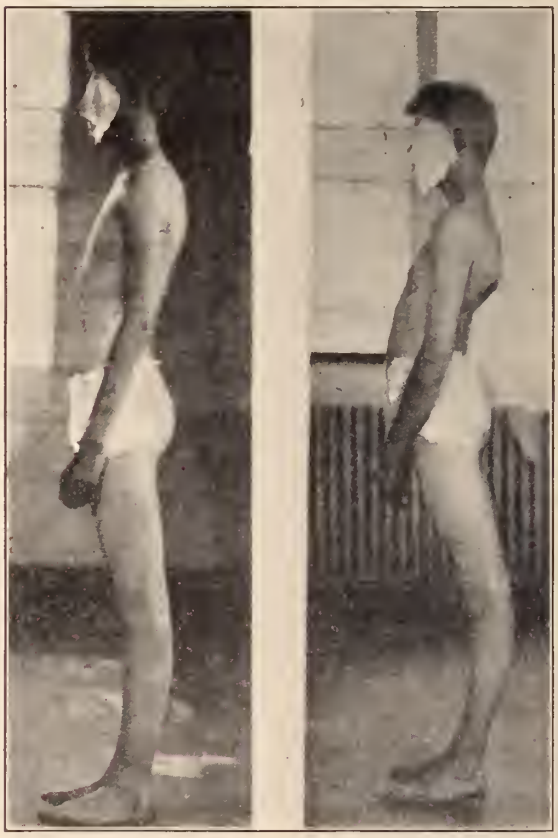


Figure 2.

Bad Body Mechanics.

If the mechanics in Fig. 1 are good, then the above must be bad. It is what is found in the chronic invalid.

are right then those in Figure 2 are wrong, and those in the Figure 2 group must be tending to lower their resistance by having to compensate for the unequal wear and tear caused by the faulty mechanics of the whole body machine.

Examinations made of large groups of men and women at Training Camps and colleges show that the second group makes up 70-80 per cent of the whole, and that those who are physically below par and have not enough physical strength to undergo military or even strenuous civil life are practically always of the second group. It need hardly be mentioned that the chronic invalid is practically without exception in the second group.

It is extremely easy to classify one's patients. All that is necessary is to examine the patient,

especially from the lateral view, with the clothes removed as low as the hips. In no other way can a proper idea of the mechanics of the patient be judged. In making the classification one must keep in mind what is the correct mechanics or, expressed somewhat differently, the correct shape of the body for the particular type of individual being examined.

Just as there are extreme differences in the outward shape of the body, so there will be found extreme differences in the size and shape and position of all the organs inside the body. It is not possible because of time to enumerate the many differences that occur, but anyone who has seen many radiographs of the hollow viscera must realize for example not only the differences in the shape and sizes of the non-pathological stomach, but also its great variations in position. These differences occur not only in the hollow viscera, but also in the solid ones, such as the liver, kidneys, spleen, etc. The important point to be remembered in all these differences is not so much the shape and position of the organs, but can they and do they function in the position in which they are used, and what is their relation to the mechanics and the shape of the body as a whole? In other words, the X-ray findings of the viscera as to size, shape and position must be correlated with the shape and mechanics of the body.

A. B.

Figure 3.

A. The heavy type of vertebrae. Note the long crescentic type of articular facets and the broad "pan cake" type of bodies.

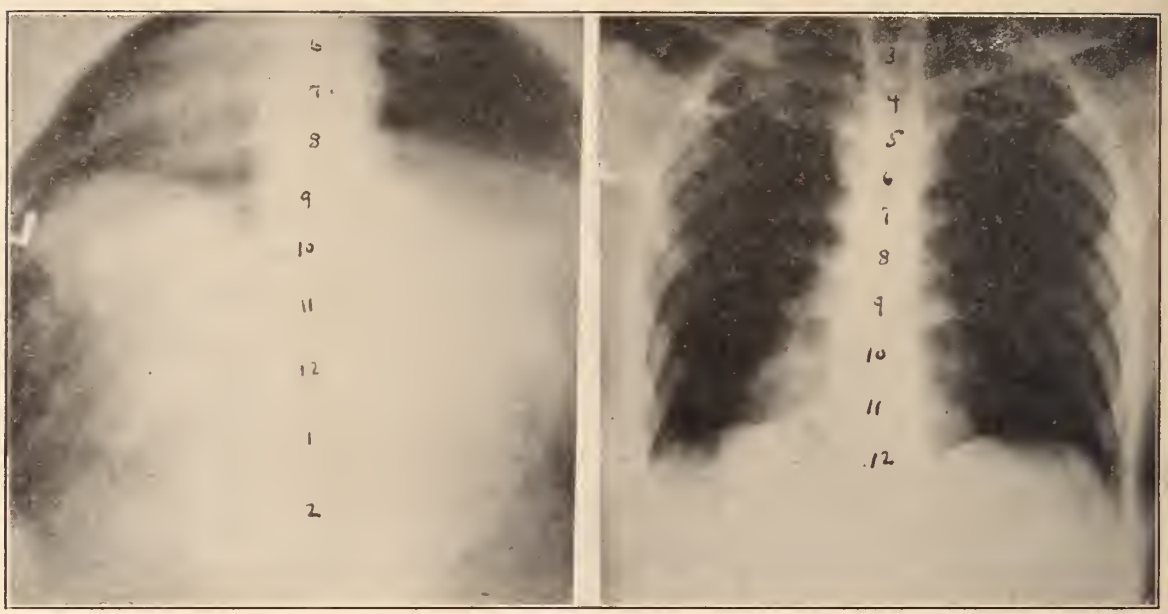
B. The thin type of vertebrae. Note the difference in the articular facets and that the vertebral bodies relatively narrow and deep resembling the dorsal vertebrae.

Perhaps one of the most common conditions seen in the chronic patient is the low backache, so commonly associated in the lay mind with kidney trouble. An appreciation of the shape and the mechanics of the body in relation to the size and shape of the vertebrae and articular facets will help one greatly in the proper understanding of these conditions. For example, in the heavy type of individual we find that the lumbar vertebrae are broad and relatively very flat when compared to the narrow and deep, almost dorsal type of lumbar vertebrae such as are seen in the thin types of individuals. (See Figure III.) In the heavy type of vertebrae it is not uncommon to find the long crescentic type of articular facets which means that the spine cannot have as much flexibility as in the shorter and flatter facets seen in the thin type. When it is considered that in the heavy type all the organs are heavier and larger and have much more firm retroperitoneal attachments, in other words, have much less range of motion or possibility of ptosis than in the thin type, the importance of the lack of flexibility of the spine can be appreciated, since it prevents undue crowding of the viscera as would unquestionably occur if the spine were as fully movable as in the thin type where the viscera are all smaller and loosely attached.

A knowledge of the type and shape of the vertebrae and articular facets as well as of the various abnormalities which may occur, not only at the lumbo-sacral region as, for example, the sacralized transverse processes of the fifth lumbar and at the lumbo-sacral region, taken in connection with the mechanics or shape of the body, will explain many cases of low backache and obscure abdominal pain not hitherto fully understood.

The variations in the shape and position and action of the diaphragm in the different types of human anatomy, and the effect that the mechanics of the body as a whole may have on these is very little appreciated at the present time.

The following X-rays (Figure IV) show some of the conditions found in the various types. In the heavy type it is not uncommon to find in the upright position that the top of the diaphragm is at the level of the eighth dorsal vertebra and the base of the heart at the fourth or fifth dorsal vertebra, while in the thin type the diaphragm



A. B.

Figure 4.

A. The heavy type, showing the top of the diaphragm on the right side to be at the eighth dorsal vertebra and the base of the heart about the fourth or fifth.

B. The thin type showing the top of the diaphragm to be at the eleventh and twelfth dorsal vertebra and the base of the heart about the seventh or eighth. These pictures were taken in the upright position.

may be at the level of the twelfth dorsal and the base of the heart at the eighth or ninth dorsal. A lateral view will also show not only the shape of the diaphragm but also the depth of the cardiac region at this point. By means of the fluoroscope the action of the diaphragm in full inspiration, full expiration, and in ordinary breathing can be examined. As shown in Figure V very great variations can be found. When it is appreciated that the large abdominal veins are emptied into the right side of the heart by the pumping action of the diaphragm, surely the very small amount of diaphragmatic action seen in Figure V, B as compared to A must at least be considered as a possibility in the causation of some of the obscure abdominal conditions, to say nothing of some of

A. B.

Figure 5.

A. Fluoroscopic tracing of the diaphragm of an individual using his body in bad bodily mechanics as in Figure 2.
a, position of diaphragm at full expiration.
b, position of diaphragm at full inspiration.
c, position of diaphragm at normal expiration.
d, position of diaphragm at normal inspiration.
B. Fluoroscopic tracing of the diaphragm of an individual using his body in good bodily mechanics.

the functional cardiac conditions as, for example, the D. A. H. cases (deranged action of the heart) so commonly seen in both the American and British Armies. As further evidence of this possible connection it is well known that these D. A. H. cases could many times by the proper training and building up their physical vigor be made capable of full military duty.

By what has been said it can be seen that in the examination and the treatment of the chronic patient it is not sufficient to take into account only the results of the various tests now possible to the medical profession, but that these tests should be considered in relation to the type of the special individual and to the special mechanics of this special type.

In conclusion, I wish to quote the closing paragraphs of Dr. Goldthwait's article already referred to above.

"There is one feature in this consideration of the chronic patient that seems to me to need mention at this time, which is, that we do not allow ourselves to be misled in our cause and effect interpretation of our work. That which I have in mind especially, but which is presented as illustrative of a good deal of general reasoning, is the attitude held today regarding the chronic arthritic and focal infection. That the recovery from joint symptoms which follows the removal of teeth or tonsils is at times due to this specific treatment there can be no question, but that all of the cases which ultimately recover do so because of this, anyone who has seen much of such cases must question. We must never forget that the average case of 'chronic rheumatism' (by whatever special term it may be designated) gets well and has gotten well long before these special surgical measures have been used. If this were not so, think of the numbers of cripples there would be today. Naturally, if the tonsils are diseased, or if the teeth are in bad condition, they should be treated as matters of general hygiene, but very rarely is the really serious case of chronic arthritis influenced by this. Most of these cases are due, as far as we can see today, to complex disturbances of the physiology as it concerns the abdominal structures, in which probably no one organ is wholly at fault. Imperfect drainage of the bowel may be a factor, but the imperfect drainage of the ducts of the other viscera may be as important, or the character of the secretion of the different glands or organs may be changed by disturbances of the blood supply.

"Too rich a mixture in the gas supply of an automobile makes the motor stall; too weak a mixture leads to a similar result. It seems not improbable that in just such ways the balance which the normal physiology represents may be disturbed, and that because of this, bacteria may multiply, for instance, that would otherwise be controlled, or that other elements that are desired are not produced. Many disturbances are possible.

"These are simply a few of the suggestions which I should like to leave with you. The chronic patient is offering a challenge to us, the answer to which will mean either the downfall of a large part of our work or the relief of a great many who now beg for relief, but who receive scant consideration at our hands. Study them, make the most thorough examination of them that is possible, but first study the anatomic structure of the individual with the special physiology that is peculiar to such special structure, as well as the disturbances of the physiology that should be expected, as the body is used by the special case, and see if some of the special tests or examinations do not take on new significance, so that the cases become understandable and relief can be offered."

THE RELATIONSHIP OF GOITRE TO THE CHRONIC PATIENT.*

BY H. G. SLOAN, M. D.,

CLEVELAND, O.

Goitre causes considerable disability where it is prevalent. The disease is preventable by the simplest prophylaxis. Our earliest written knowledge of it comes from India, dating back 4,000 years. Cæsar commented on the goitres he saw in Gaul. The hill country of India and Switzerland still are the best known locations of endemic goitre. The first French explorers of the Great Lakes found goitre prevalent among the Indians in this area. In the United States the distribution follows very closely the terminal moraine of the third glacial epoch. It extends from the St. Lawrence basin along the southern extent of the Great Lakes watershed, and thence following

*Read before the State Medical Society of Wisconsin, Sept. 7, 1922.

roughly a westerly direction to the Pacific. Our highest incidence is found in the northwest corner of the United States, in Washington, Oregon and Idaho.

Women are more affected than men. Its greatest prevalence is during puberty and again during the child-bearing age. Marine and Kimball, in a survey of the Akron, O., schools, where there is only a moderate incidence, found 56 per cent of the girls had enlarged thyroids. Where the disease is most marked, as seen in some cantons in Switzerland, almost every school child has a thyroid enlargement. An idea of the prevalence of goitre in the United States can be gained from the report of the United States draft boards. "The highest percentage (27 per cent) was found in the troops from Idaho; the percentage gradually declining from the northwest to the southeast until in Florida, the rate was only a fraction of one per cent." One must recall, however, that at the same age, i. e., draft age, women are affected to a much greater extent than men.

Ordinarily, in women of twenty years of age, the incidence, when compared to men, is two women to one man. In our operative experience eight times as many women as men require operation for goitre. In school children up to the high school age, the incidence is six to one. Women are more prone to thyroid enlargement because of the well known inter-relation of the thyroid and the reproductive organs. The thyroid normally enlarges during menstruation and pregnancy. Many times the patient tells of increasing enlargement of her neck dating from her first pregnancy.

In districts where we find the largest number of diffuse colloid goitres, there also we see the largest incidence of foetal adenomata. These adenomata appear clinically as a unilateral, asymmetrical, sharply outlined enlargement of the gland. These later in life may give rise to intoxication, the so-called toxic adenomata. Thirty per cent of our operative cases are adenomata.

Goitre has a harmful effect on all the tissues of the body and varies in its damage according to the amount of intoxication each type induces. The mentality is slowed, as seen in the goitrous delinquents in schools of goitre belts, not taking into consideration the mentality of cretins. The highest percentage of cretins occurs in districts where the incidence of goitre is greatest. This is graphically shown in charts which demonstrate clearly that goitre in the parents has a marked effect on the incidence of cretinism in the offspring. Mental depression, introspection and the gray outlook on life are the psychological stigmata commonly seen in goitre patients. They are directly referable to the tiring of the nervous system, due to the thyroid intoxication and coupled with the inability to come to a decision, complete the mental syndrome of goitre. In those who are endowed by inheritance with an unstable central nervous system, the intoxication may result in mild insanity. Early physical tiring goes hand in hand and is proportionate to the severity of the disease. Shortness of breath on exertion is due to the myocarditis accompanying the disease. The heart is affected proportionately with the severity and duration of the poisoning. It gives the earliest diagnostic indication of thyroid intoxication. Permanent damage to the myocardium and the impulse conduction of the heart is seen more frequently in the long standing toxic adenoma cases than in acute exophthalmic goitre. The patient's ability to do hard physical labor is materially curtailed by his dyspnea and lack of endurance. The presence of goitre is therefore cause for rejection in the military service in the army. In Switzerland, this is a considerable factor.

The various types of goitre have this characteristic in common, namely, they show periods of increased intoxication alternating with periods of regression. We feel that the intoxication gives the same end results in each type of goitre, varying only in the degree of severity. Certain individuals tolerate the intoxication better than others and it is not uncommon to see phlegmatic individuals of strong build go through life with a huge goitre and apparently sustain little damage. On the other hand, the high-strung type with a more active mentality is damaged proportionately more by the intoxication.

The adenomata send in their bills during the fourth and fifth decades, whereas the acute exophthalmic type usually occurs ten to twenty years earlier in life. There is a certain type of goitre that plays a role in certain cases of high blood pressure. These patients are relieved by thyroidectomy. The intra-thoracic type, with their crippling compression effects on the vascular system and trachea, present, at times, difficult points in diagnosis and in surgical removal; the

results are most gratifying. Cancer of the thyroid is not an uncommon disease in goitrous areas. The prognosis is poor if the diagnosis of cancer can be made clinically. The invasion of the surrounding structures is then so widespread that a cure is not to be expected. Much, however, can be done in palliation. Cancer occurs nineteen out of twenty times in a previous adenoma. Rarely does this change take place in an adenoma smaller than a goose egg. When, during the cancer age, an adenoma becomes larger than this, we consider this a pre-cancer stage and advise removal in the same manner as we eradicate pre-cancerous lesions elsewhere in the body.

Cancer of the thyroid, acute exophthalmic goitre and the toxic adenomata are the urgent issues in goitre. These thyroid diseases usually cause a complete disability. The death rate connected with them in the city of Cleveland for the last five years has exceeded our typhoid mortality.

	1918	1919	1920	1921	First 6 mo. 1922
Typhoid	37	21	26	29	5
Thyroid	43	41	37	55	29

The diagnosis is becoming daily easier and a concensus of opinion is growing relative to their cure. As in acute appendicitis, we operate on diagnosis as soon as it is made.

We come now to the type over which much controversy has raged and which in the sum total of partial disability assumes considerable proportions in a goitre belt, namely, the border-line toxic thyroids, or as I like to call them, the 25 per cent disability class, because these patients tucker out about the middle of the afternoon. A machine-made diagnosis is not possible with them, for at rest, they rarely show an increased metabolic rate justifying the diagnosis of exophthalmic goitre. One must rely on the sum total of the clinical picture in order to form an opinion. The outstanding points are a weight loss which, in general, amounts to ten pounds; mental depression; unstable nervous system coupled with fine tremor of the extremities; thyroid enlargement; increased pulse rate; and a globular enlargement of the heart, percussed in the upright position by the immediate method. Cardiologists feel that orthodiagrams made by X-ray projection fail in 50 per cent to show this. The whole symptom complex must be taken into consideration in arriving at an opinion, as no one symptom is constant. The incidence usually falls in the late twenties. The response and improvement following thyroidectomy demonstrates the correctness of the diagnosis. In looking over my past records, I find that the diagnostic error averages 10 per cent where the patient has not been cured following thyroidectomy and removal of the foci of chronic infection. This type is most often seen in those confined indoors in earning their own living. Rarely does it cause invalidism, but they continue on a 25 per cent disability. The diagnostic pitfalls occur principally in patients who are subjects of focal poisoning. The disease is not to be confused with adolescent hypertrophy. The gratitude of the cured ones amply justifies the care that their diagnosis entails.

Thanks to the investigations of David Marine, we now have a simple solution of the goitre problem. The demonstration that goitre results from iodin hunger, stands out as one of the most brilliant contributions to preventive medicine of our day. Iodin was found to be a normal constituent of the thyroid by Bauman, in 1895. The ancient Greeks gave burned sponge in their treatment of goitre without knowing that its beneficial action was due to its iodin content. This medication continued well up to the middle of the last century to be the common treatment for goitre. Coindet, in 1820, first purposefully used iodin in the treatment of goitre. Marine and Lenhart showed that the thyroid in dogs would not hypertrophy if the iodin content remained above 0.1 per cent. If the iodin content of the gland fell below this figure, then hyperplasia resulted. They showed by histological slides an increasing hyperplasia of the thyroid proportionate to the lack of iodin in the gland examined. By feeding the dogs iodin in the early stages of thyroid hyperplasia, that is, in early goitre, they found the goitre went down in size proportionately as the microscopic hyperplasia regressed into the colloid resting stage of the gland. A thyroid poor in iodin takes up this element very greedily when it is fed to the animal, rubbed on his skin, or even the vapor of iodin inhaled.

Halsted early showed that if a goitrous dog had puppies, the chances were that the whole litter would have goitres. If part of the mother's goitre were removed, then the pups had larger goitres at birth. In other words, the foetal thyroids hyper-

trophied in an attempt to help out the mother's thyroid deficiency. Marine showed later that if goitrous, gravid dogs were given iodin, the pups had normal thyroids. Strecheisen calls attention to the fact that if the isthmus of the thyroid is enlarged upward in the throat, that the influence that caused its enlargement was working during foetal life. In other words, the mother probably had a deficient thyroid or goitre during this period. He calls attention to His's research on the thyroid, showing that the thyroid isthmus, which is a continuation of the thyro-glossal duct, closes off at the thyroid level in the foetus at two months. So, in children showing an upward prolongation of the thyroid isthmus, we can be sure that the factor which caused this was present during their intrauterine life. Hence the necessity of giving gravid women iodin in goitre belts, in order to prevent goitre in their offspring.

Our theory of endemic goitre is that it is a work hypertrophy due to iodin lack. The thyroid labors to fill the body's demands when the gland has not a sufficient amount of one of its necessary basic raw materials at hand from which to fabricate thyroxin, its active principle. Clinically, we know that chronic infection throws an added load on the laboring thyroid and causes further hypertrophy. From a geological standpoint, iodin was deposited originally in the form of sodium iodide from the stratification of the sea bottom. Sodium iodide is four times as soluble in water as sodium chloride. In the ages elapsing since its original deposition, it has been leeched out of the strata by percolation of rain water, while the salt laid down at the same time remains to a greater extent. Goitre is therefore rare on the seacoast where the inhabitants get their water supply from newly laid down strata. But where the water supply comes from a goitrous inland district, as in one of our Pacific coast cities, goitre may be prevalent.

In goitre regions, the domestic animals and fish are affected similarly to man. In some districts the incidence of goitre in fish has been so large that the life of the fisheries has been threatened. In Michigan, the prevalence of goitre was destroying the sheep industry until proper measures were taken to eliminate the disease. In the Cascade Mountains, the hogs and chickens were being affected to such an extent that it was no longer profitable to raise them. Marine and Lenhart, studying the goitre problem in trout in 1909-1910, found that a solution of 1/1,000,000 of iodin added to the water prevented goitre. Marine suggested giving iodin to the sheep in Michigan and thereby restored to normal the whole sheep industry in the southern peninsula of the state. Previous to this time, the majority of the lambs were goitrous and their pelts and physical condition far below normal. In these various animal industries this factor has been entirely eliminated by methods which are equally applicable and effective in their application to man. In a research by E. B. Forbes of the Agricultural Station at Wooster, Ohio, no trace of iodin was found in any one of the twelve varieties of salt made in western New York, eastern Michigan and Ohio. Although the salt brine from which the salt is crystallized contains a small amount of iodin, unfortunately, in the process of crystallization the iodin and bromin remain in the mother liquor.

Applying the knowledge gained in the prevention of goitre in fish and animals by the use of iodin, Marine and Kimball applied this prophylaxis in the pupils of the Akron schools. They showed that among 2,190 taking gm. 2 of sodium iodid twice annually in two-week periods, only 5 showed any enlargement of the gland at the end of the year. Of 2,305 normal girls not taking iodin, 495 showed enlargements. Among 1,182 with thyroid enlargements who took iodin, the thyroids of 773 decreased in size; of 1,048 with thyroid enlargements who did not take iodin, the thyroids of only 145 decreased in size. In other words, iodin prevented enlargement of the thyroid in 99 per cent of the cases. One-third of the simple goitres disappeared or were markedly benefited by iodin. In 1921, Klinger of Zurich, reported his observation in the Swiss school children where the incidence of endemic goitre runs from 82 to 95 per cent. Ninety per cent of the 760 pupils were goitrous in the first examination. After fifteen months, of those taking 15 mg. of iodin weekly, of the 643 then examined, only 28.3 per cent presented goitres. In other words, iodin medication resulted in 60 per cent decrease in goitre incidence in a little over a year.

Where the incidence of goitre is so high the treatment must be curative rather than prophylactic. The prophylactic dosage of iodin necessary in goitre districts varies with the degree of iodin deficiency in the population. Where goitre is most

prevalent and marked there the need for iodin is greatest. In an average goitre district a milligram of iodin daily is amply sufficient to control thyroid hypertrophy. Puberty or the period of most rapid growth shows most markedly the results of iodin lack, namely, goitre. Hence iodin prophylaxis is most needed at this time. It takes very little iodin to keep the gland saturated, as the normal human thyroid contains only 30 mg. of iodin, i. e., ½ gr. The natural tendency is to give iodin in too large doses. In the surgical clinic, we frequently see toxic goitres induced by excessive iodin administration. Fat people who are attempting to reduce by taking thyroid extract sometimes develop toxic symptoms. The thyroid extract acts directly as its iodin content. In toxic cases, for some unknown reason, the thyroid is unable to store iodin. Our theory is that the thyroid under such circumstances, releases the fabricated iodin containing thyroxin into the circulation with the resulting increase of metabolism and intoxication. If the iodin dosage is controlled, there is no danger of inducing toxic symptoms in endemic goitre. It is wise in true exophthalmic goitre not to give any iodin at all.

In the early stages of thyroid enlargement we make it a rule to convass the body, especially the naso-pharynx, the teeth and gums for focal infection. That infection exerts an activating influence on goitre is universally accepted. The author drew attention to this fact in 1918 with reference to the recurrence of symptoms and hypertrophy of the thyroid remnant following thyroidectomy for exophthalmic goitre. Under such circumstances we feel that the eradication of some infectious focus which has played an accessory role in the causation of the disease has been overlooked. Removal of this focus results in the disappearance of both the symptoms and thyroid hypertrophy. Where early colloid goitre does not respond to adequate iodin therapy, search will disclose the infectious factor, usually tonsillar. Foetal adenomata are influenced to a very slight degree by iodin; why, we are unable to say.

Iodin may be administered as a prophylactic measure in a number of ways: as the syrup of iron iodide, once a day during each third month; by painting the skin once a day the size of a silver dollar with Tc. of iodin, iodin being absorbed from any skin surface. Very attractive candies have been put out for the school children. In searching for a universally acceptable, economic method of prophylaxis in goitre districts, the author proposed last year to incorporate sodium iodide 1/5,000 in table and cooking salt. This has been done by one of our large manufacturing chemists and is now available on the market. This gives a fixed, constant iodin supply to the individual of about one milligram daily in the most economical and trouble-saving method. This salt is used both for cooking and table purposes without anyone's being aware of the presence of any medication.

SUMMARY.

The considerable morbidity and mortality from goitre is easily preventable by the simplest iodin prophylaxis. Iodin is most needed by the body during active growth. Prophylaxis ought to be most active during puberty. The gravid mother in a goitre belt needs iodin so that her babe will be protected from goitre.

In exophthalmic goitre, we advise operation.

One may readily picture the time when national health legislation will insist on goitre prophylaxis. This could easily be accomplished if all salt for family use which came into a goitre district contained iodin. This one measure would sound the death knell of goitre, much suffering would be avoided, and many lives spared, while the general efficiency of the community would increase considerably.

RELATIONSHIP OF PULMONARY TUBERCULOSIS TO THE CHRONIC PATIENT.*

BY WILL HOWARD SWAN, M. D.,

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The last few years have brought forth some very authoritative figures on the general incidence of pulmonary tuberculosis—notably, the statistics gathered from the examination of troops during the late war and those gathered in the course of the Framingham demonstration which are perhaps more generally applicable. About 2 per cent of the population of Framingham were found to have pulmonary tuberculosis, about half of which, were in an active stage and these figures are believed to represent fairly well, conditions throughout the United States.

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*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 7, 1922.

Practically all of this 1 per cent of active cases may be expected to undergo a period of invalidism. Percentages of mortality have in the past been difficult to arrive at, but at Framingham they came to the conclusion that 16 per cent of the active cases discovered might be expected to die. Therefore, under average conditions and at all times, we may expect 1 per cent of the total population to be incapacitated from tuberculosis, and in at least one-sixth of these cases, we may expect permanent invalidism and eventually, death.

PREVENTION.

What can the medical profession do to cut down this 1 per cent? There are two general methods by which this may be done.

First, by preventive measures.

Second, by earlier diagnosis and more efficient treatment.

We have every encouragement to make an effort along both of these lines because statistics show that the mortality from pulmonary tuberculosis is steadily declining. Unfortunately, we have no very clear understanding of the exact factors that have brought about this decrease, although it is generally believed that the campaign waged against tuberculosis during the past few years, mainly through the efforts of the National Tuberculosis Association, has had much to do with it.

Preventive measures would naturally be our choice if they were available, but we have no simple, clear-cut method of either preventing infection or producing immunity, such, for instance, as we have in typhoid fever. In the latter disease we can, if we make the effort, abolish almost all sources of infection, and in addition we have protective inoculations to fall back on. In tuberculosis we have neither of these, but must place our dependence on a certain amount of tolerance, which we seem to have acquired, for infections with the tubercle bacillus and a fairly marked tendency, under favorable conditions, to resist the development of progressive tuberculous lesions.

Practically all authorities have accepted the fact, for the present at least, that we cannot protect the human race from exposure to infection—(we cannot eradicate the tubercle bacillus) ; neither can we produce an artificial immunity. We must approach the problem not only by indirection, but these indirect methods must be numerous and varied and of infinite detail. Every individual must be regarded as a test tube which sooner or later will be inoculated with the tubercle bacillus. We do not believe that anyone is necessarily doomed by heredity or any other fact to succumb to this infection. We have good reasons to conclude that the culture will not thrive under proper conditions. It becomes our business to make these conditions as safe as possible. This program of influencing environment is so huge and all embracing that we must pick out some concrete and practical beginning to tie to.

The National Tuberculosis Association has wisely done this and has devoted its efforts largely to educating the people on the importance of the early recognition and treatment of pulmonary tuberculosis and more recently, the necessity of keeping fit. Krause has given us two broad leads for attacking the tuberculosis problem. First, he considers it proven that all those factors which improve the general health of a community reduce the death rate from tuberculosis, and conversely, second, he considers the school to be the most important single point for attacking the problem.

Gathering a large number of children into one building continuously, and for long periods, is a dangerous procedure at the best. Custom has long sanctioned it, and economy has been urged as demanding it. The safeguards provided in our school regime are lamentably inadequate, and I have no doubt that much of the incidence of tuberculosis is the price we pay for this neglect. The school is the incubator in which the human culture tube spends a most important period. The tubercle bacillus may not be an anerobe, but we have abundant evidence that it does not thrive in fresh air, and yet, this simple fact is given little practical or adequate attention.

It is generally agreed that children are very susceptible to infection with tuberculosis, and it is commonly accepted that childhood infection increases in percentage up to the age of 15, or perhaps 20, when it is well-nigh universal. We know that infection during infancy is very dangerous and many believe that the young child should be removed, by the state if necessary, from a family having a tuberculous member. After 4 or 5 years of age there is probably less danger both as to immediate and remote effects. Large and repeated infections are believed to endanger the development of resistance and to frequently determine the onset of manifest tuberculosis. There is a large

gap in our knowledge as to what goes on in the period between childhood infection and adult pulmonary tuberculosis.

Many excellent articles on the anti-tuberculosis program have appeared in the literature recently, and the subject has been more completely covered than is possible in this discussion. The Framingham demonstration shows us how much a dollar can produce in lessening invalidism from tuberculosis. It has also shown us what excellent cooperation may be secured in a community, from people who are thoroughly aroused to the importance and value of fighting disease. Two dollars per capita for annual public health work has been voted by the people of this community, under the stimulus of education and demonstration.

Haven Emmerson has recently published a comprehensive analysis of the factors concerned in reducing the death rate from tuberculosis in New York City. He lays stress on two factors which must appeal to most of us—the influence of recent high wages, in bettering living conditions, and the effects of prohibition. If we were to sum up preventive work in one word, we would probably have to select for our slogan "resistance." It is quite common to refer to this work as "building up the resistance." Either we possess resistance as a birth-right, or it is not to be secured; we squander it or we preserve it, and mostly, I am afraid, we squander it.

We can leave the subject, then, with a brief word of accent on one or two phases—the care of the young child, better school conditions, much greater interest in the physical welfare of school children, more public health work and better living conditions—a program which will tax our best efforts.

DIAGNOSIS.

Desirable and important as are preventive measures, it is probably true that our most effective, and certainly our most tangible, weapons against pulmonary tuberculosis at the present time, are to be found in the early diagnosis and proper treatment of the disease.

Eighty-three per cent of the Framingham cases were brought under treatment in the early stages of the disease, and this was considered the most important factor in the remarkable fall in the death rate.

With the exception of the X-ray, little or nothing has been added to our knowledge during recent years to promote diagnostic efficiency in recognizing tuberculosis. Skill acquired by long study and experience in chest work remains essential.

Every community which is to do its duty towards its tuberculous invalids should have the services of specialists trained in tuberculosis, and must have laboratories in which routine examinations and animal inoculations can be performed. Preferably, the specialist and the laboratory should be available in the form of the tuberculosis dispensary. There are already between five and six hundred of these dispensaries in this country. One dispensary found over 60 per cent of the suspects who presented themselves for examination, to be non-tuberculous. This is as it should be. When tuberculosis becomes obvious, the diagnosis has lost its greatest value. Eternal vigilance is required to detect any considerable proportion of pulmonary tuberculosis in the early stages. (In general, it may be said that the term, "early diagnosis," usually requires that the disease be recognized before tubercle bacilli appear in the sputum.)

We must consider, in this connection, the type of individual called "presumptively tuberculous"; young individuals of asthenic type who lack vigor and development. These cases should not only be watched, but should frequently be placed under a modified tuberculosis treatment.

TREATMENT.

Just as building up and maintaining body resistance is the chief weapon in preventing tuberculosis, so it is the real aim in treating the disease.

It appears that the first requisite is to determine, if possible, what factors in the patient's life, heredity, environment and experience have lowered, or are continuing to lower, his resistance, and then try to help him to remove or overcome those factors.

This may lead to any line of medical practice; far into the realm of psychology; compel the doctor to become detective, policeman, father-confessor and advisor, and entail great effort on his part. I believe that often ultimate success or failure will be determined by the faithfulness and efficiency with which this duty is performed.

The wise physician will carefully plan, not only for an abundance of open air, ample nutrition and proper regulation of rest and exercise, as routine in all cases, but he will direct all the details of the patient's life, even his amusements and com-

panionships, till such time as he has, by training and education, become competent to use safe discretion.

Everything should be adapted to the requirements of the individual and be subject to modification as time and further study show the need.

As early as possible, he should be taught as much about his disease as his intelligence justifies, and be made to see the reasons for all procedures prescribed. He should be made to realize that his own acts and attitude, his good sense and continuous faithfulness in "playing the game" are going to determine, more than any other factor, the outcome of his "cure."

The helpful influence of cheerfulness and a philosophical attitude under trying circumstances, and the very harmful effects of useless introspection and worry, should be part of his gospel. He should be made to realize that pulmonary tuberculosis is a very prolonged disease, prone to periods of exacerbation and remission; and that there are likely to be periods when his common sense rather than his inclination, will have to keep him from overdoing and inviting reactivation of a quiescent process.

In a recent statement, the total number of beds available in the United States for consumptives was placed at 65,000. According to the estimates at Framingham, 42 per cent of the active cases needed sanatorium treatment, at some time, for a longer or shorter period. According to these figures, we have approximately four hundred thousand candidates for these sixty-five thousand beds. Even with a three or six months' stay, the number is inadequate. Aside from the fact that in a great many cases, proper facilities for the home treatment of tuberculosis are lacking, sanatoria fill an important place in a general scheme of rehabilitating the tuberculous invalid. The educational value of a period of treatment in an institution should be of the greatest service. Association with other individuals similarly afflicted usually corrects many of the morbid tendencies noted in the home treatment case.

It is probably true that the number of beds, available and occupied by consumptives, would serve as a good index of the efficiency of the tuberculosis work in the average community.

In the home treatment of the tuberculous invalid of modest means, a well organized nursing service is a very useful and economical aid. The dispensary, the sanatorium and the nursing service working in co-operation make a most efficient combination.

VOCATION.

There comes a time when the patient who continues to improve must find some occupation both for his financial necessities and his moral fiber. The proper occupation may have been acquired before his illness, but all too frequently he is not able to return to his former labors.

Aside from its economic aspects the therapeutic value of well regulated vocational training is apparently well established.

Since the war, the various governments concerned have taken over the treatment and rehabilitation of the tuberculous soldier and have given the questions of suitable vocation, and earning power, deep study, and I shall quote rather freely from The Report to the Director of the Medical Service, Department Soldiers' Civil Re-Establishment of Canada submitted by the Board of Tuberculosis Consultants.

It has long been recognized that the first two or three years following discharge from a sanatorium are fraught with great danger of relapse. This has been particularly brought out in the follow-up statistics of sanatoria. According to the New York Commission for the care of the Jewish tuberculous, "52 per cent of the work done at Bedford Sanatorium was wasted in less than a year's time, the industrial conditions under which the graduates were forced accounting for most of these relapses."

It is becoming increasingly clear that this tendency to relapse after discharge, is not so much inherent in the disease itself, as due to unsuitable conditions and strain, incident to efforts at earning a living. Perhaps the keynote of the situation may be best expressed by the general statement that the average arrested case is at first only about a 50 per cent man, when compared with his unhandicapped competitor, and in many instances, this disparity will be permanent.

These limitations are more noticeable in some directions than in others, and the responsible factors must be considered in selecting a vocation. While it has been said that "it is not the trade that is the stumbling block, it is the conditions under which that trade is carried on," nevertheless, there are some occupations that are obviously unsuitable.

The chronic tuberculous case is particularly susceptible to:

1. *Hard labor,* whether in the city or on the farm. It has been well said that "hard labor kills the tuberculous."

2. *Bad environment.* These cases cannot be safely exposed to poor sanitation, irritating dust, fumes and gases, deficient light and ventilation, excessive moisture or extremes or great variations of temperature.

3. *Long hours.* Excessive fatigue is not compatible with resistance, and the effort to make "pace" and to "speed up" is responsible for many breakdowns.

4. *Low wages.* Living conditions suffer from the effect of a small wage.

These limitations have brought to the foreground the urgent need of what has been termed "industrial convalescence" and "sheltered employment."

Since the average case cannot at once, and may never, be able to compete on even terms in the open industrial labor fields, it becomes urgently important to find ways and means of providing employment suitable to his limitations. It is claimed that "relapses have been reduced 50 to 80 per cent under sheltered employment in New York City." Special forms of employment have been organized along a number of different lines and some of these may be enumerated:

FACTORIES.

In New York City there are a number of factories exclusively for the tuberculous. Among them, the Altro Garment Workshop, makes garments which can be sterilized. The workers are under constant medical supervision and are allowed to work as many hours as their condition permits. A nurse is in charge as Forewoman.

The "Reco" Manufacturing Company has a workshop for tuberculous ex-service men and others, and manufactures jewelry, does watch repairing and cabinet making. This venture is partly subsidized by the National Tuberculosis Association, and partly by the Federal Board for Vocational Education.

AGRICULTURAL COLONIES.

Agricultural colonies have been founded as part of the industrial convalescence program. One has been operated since 1917 at Kinson, in Dorset, England. The men there work part time in pairs. In this country a modification of the farm colony has been successfully conducted at Eudowood Sanatorium near Baltimore for 12 or 14 years. In general, it may be stated that the agricultural colony is not meeting with as much favor at the present time as other forms of sheltered employment.

INDUSTRIAL COLONIES.

Two examples may be mentioned: Mill House at Nayland, England, and the East Anglian Sanatorium, which makes toys, jewelry, light metal work and chairs. Agricultural and industrial colonies have been combined as in the training colony section of Papworth Hall estate, England. The patients are taken on two months' probation, after which, they receive one-fourth the pay of outside workers on similar jobs. At Rutland, Massachusetts, a somewhat similar plan is being tried on a small scale.

The Permanent Village or Community Settlement has been proposed but has been given but little trial. It is contemplated that the patient after six months' training in the training colony can have permanent employment in the industry for which he has been trained. Housing to be provided for the individual and family. The economic advantage has been urged of having the three activities together—the sanatorium, the training center and the village settlement.

One of the most recent proposals for sheltered employment and training with supervision is provided for in the will of Miss Ida Potts for an institution in Columbia County, New York; $150,000 was left for suitable building. A million and a quarter as an endowment fund. Quoting from the bulletin of the National Tuberculosis Association, "the plans contemplate training in certain basic lines of employment, such patients as may be able to return to the normal channels of commerce and industry that are adapted to the purpose. Other beneficiaries may be prepared for positions in tuberculosis sanatoria. Persons unsuited for either of such employments will be enabled to earn a livelihood in "sheltered employment," i. e., under medical and nursing supervision with opportunity for part time work suited to their physical limitations."

SUMMARY.

1. One per cent of the population are at all times incapacitated from earning a living on account of pulmonary tuberculosis and at least another one-half of one per cent are limited in their earning power and capacity for work.

2. Preventive measures give promise of most important results in controlling tuberculosis, judging from the steadily falling death rate. We have no direct preventive measures. Infection probably cannot be prevented in any large degree, but it is believed that massive and frequently repeated infections can be minimized by education and other means, and the dangers thereby greatly lessened. Perhaps even more important as preventive measures are all those efforts directed toward improving or maintaining the public health; in other words, keeping up resistance.

3. Early diagnosis and treatment are still our most effective weapons in controlling pulmonary tuberculosis, and these demand from the physician training, experience, resourcefulness and infinite attention to detail. It is devolving more and more on the state and the community to furnish the "combat units" and "sinews of war" for the campaign against invalidism and death from this cause.

4. From all economic and humane standpoints, the victim of tuberculosis cannot properly be left to shift for himself when first returned to duty. Perhaps the most outstanding development of tuberculosis work today revolves about this point of industrial convalescence. If relapse after discharge is to be retrieved from its present unfortunate percentage, then medical supervision, vocational training and sheltered employment must be provided for the discharged case of pulmonary tuberculosis.

DRUG THERAPY IN PYELITIS.

An attempt was made by Henry F. Helmholz, Rochester, Minn. (*Journal A. M. A.*, July 22, 1922), to determine the direct mode of action of several of the more commonly used drugs in the treatment of pyelitis. The action of the alkalis, of hexamethylenamin and of salol has been studied. In acute cases of pyelitis, the alkalis are useful, but there is no evidence of any direct specific action. Hexamethylenamin has a very definite bactericidal action in the bladder, but whether this applies also to the pelvis of the kidney has not been demonstrated. Phenyl salicylate does not have antiseptic properties in the doses given.

THE RELATIONSHIP OF ABDOMINAL SYMPTOMS TO THE CHRONIC PATIENT.*

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When I received the invitation from your Secretary to engage in a Symposium on The Challenge of the Chronic Patient to the Medical Profession, and also the information that this symposium was to cover the greater part of the time of your Annual Meeting, I inferred that your Committee on Scientific Program were impressed with the fact that the chronic patient is not receiving the careful consideration which his case demands, and probably, also, that the profession is somewhat responsible for allowing him to become a chronic invalid.

I am in entire accord with these ideas, and believe that such a discussion is most timely, especially so since in recent years so many different cults have arisen to challenge our ability as well as our sincerity in the care of the chronic patient.

In a discussion of abdominal symptoms it will be necessary to make a careful differentiation between symptoms arising from diseases of the abdominal organs proper and symptoms arising from diseases of certain extra-abdominal organs but referred to the abdomen.

In order to clarify the matter, therefore, I shall refer first briefly to *extra abdominal conditions* responsible for and associated with abdominal symptoms. These may be divided into (1) diseases of the cerebro-spinal system, (2) those of the respiratory system, (3) those of the cardio-vascular system, (4) those of the genito-urinary system, (5) those of the endocrine system, and (6) those of the skeletal system.

Of the first—abdominal symptoms resulting from diseases of the cerebro-spinal system—the most striking is that associated with *tabes dorsalis*, the attack of so-called *gastric crises*. In an outspoken case of locomotor ataxia an attack of abdominal pain is easily interpreted, but it happens occasionally that the attack of abdominal pain with one or two minor symptoms, or with an uncertain history of syphilis alone, is the only evidence of the disease. These are the cases which sometimes,

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unfortunately, lead one to resort to operation for supposed gall stones or even for diseased appendix. If the diagnosis cannot be definitely established otherwise, a lumbar puncture should be done.

Cerebro-spinal meningitis nearly always is ushered in with vomiting as the outstanding symptom. Occasionally a patient who may have had vague symptoms of certain gastro-intestinal disease has a sudden attack of nausea and vomiting due to a meningitis. Unless the physician considers this possibility he may attempt to treat a supposed acute exacerbation of a chronic gastro-intestinal disease while he is overlooking the real, an acute meningitis. A lumbar puncture will aid in the differentiation.

The constant headache with more or less nausea and vomiting caused by *brain tumor* and *brain abscess* is sometimes misinterpreted and attention is paid to the digestive organs until happily the eye grounds are examined or signs of local pressure occur. The effect upon the digestive system of such a simple disturbance as an astigmatism, for example, is also well known to all.

It would scarcely be profitable in the time permitted to discuss the various abdominal symptoms which have their origin in the generally accepted class of *the neuroses*. These may be manifested at times only with the insignificant symptoms of "gas," or "heartburn," or again by the discomfort of constipation or a diarrhoea, or even by protracted nausea and vomiting, by emaciation and loss of strength and occasionally with severe pains, "gastralgia," cramp-like or otherwise, and yet the abdominal organs are free from any pathology whatsoever.

I am of the opinion that these symptoms, a few of which have just been enumerated, are too frequently disregarded by the average physician, because of the fact that no pathology is present or at least none can be demonstrated. We are at present keen on certain irregularities of the heart on hypertension, and other cardio-vascular conditions which may be due to disturbed innervation only, and yet the phenomena due to disturbed innervation of the digestive system scarcely receives any consideration.

The *psychoses* are of equal, if not greater importance in this discussion, but their consideration would lead us too far afield. The tendency seems to be to interpret abdominal symptoms in the mental case as being of nervous origin, only without considering the possibility of organic disease.

Of the *diseases of the chest* producing abdominal symptoms, those of the lungs and pleura are particularly important. The abdominal pain associated with a lobar pneumonia or with an acute pleurisy, especially if it is diaphragmatic, is familiar to all of us. I have no doubt we have all had our experiences, and possibly hairbreadth escapes when we were about to proceed upon the idea of an acute abdomen, to find in the course of a routine examination that the abdominal pain had its cause in pathology above the diaphragm.

The same may be said of certain conditions of the *heart and of the vascular system* in general. Who that is engaged in a consultation practice has not had his attention called to the case of a patient in middle life with pain, tenderness, and swelling in the upper abdomen, giving a history of loss of appetite, loss of weight, and of nausea and vomiting of blood—all the earmarks of advanced carcinoma of the stomach, but with an actual cardiac decompensation as the only cause of the symptom complex? Or who has not occasionally found a case with anginoid pains in the abdomen due to an advanced arteriosclerosis, or an aortitis, when there were strong suspicions of an "acute abdomen."

From my personal experience I have found it well to remind the medical student of the possibility of mistaking the vomiting of pregnancy for a duodenal ulcer, or a stone in the right ureter for a diseased appendix. Among over 500 patients bearing abdominal scars who consulted me because the symptoms for which they had been operated remained unchanged after the operation, a surprising number had some pathology in the right kidney, or a stone or stricture in the right ureter.

Endocrine disturbances are receiving considerable attention at present, and it may be unnecessary to call attention to the fact that the persistent nausea and vomiting, or the diarrhoea occasionally associated with a thyrotoxicosis is sometimes carelessly interpreted as direct evidence of grave pathology somewhere in the gastro-intestinal tract.

Skeletal system.—Faulty posture, with consequent ligament and muscular strain may result in abdominal pain. The various ptoses of the abdominal organs may readily be explained by such faulty posture. Hence symptoms coming from

such ptoses may be explained by faulty posture. The orthopedists deserve great credit in calling our attention to this.

This discussion might be profitably pursued to a greater length, but I trust enough has been said to make plain the fact that the abdominal pain of the chronic patient demands and should compel a comprehensive examination and study.

Cabot, of Boston, long ago in one of his keen analyses of autopsy records called attention to the fact that abdominal symptoms occur often without any pathology of the abdominal organs. The diagnosis commonly made by the profession of chronic gastritis, for example, was frequently found to be based on no pathology in the mucous membrane of the stomach, but definite pathology of the kidneys or of the heart or of the lungs was demonstrable.

In an audience of this character it will not be necessary to cover in detail all the symptoms of the disease conditions which are commonly attributed to the abdomen. The time allotted will be more advantageously employed, I believe, in discussing two or three underlying principles which seem to me basic to this whole symposium. They are these:

First. Is the medical profession aware of the possibility and the necessity of *preventing chronic disease* of the abdomen?

Second. Does the suspicion of disease in the abdomen, based upon patients' complaints, lead to the same *careful diagnostic consideration,* as it does in diseases of the chest or in disease of the kidneys, for example?

And third. Do we consider the application of therapeutic measures in diseases of the abdomen as seriously as we do in diseases in other parts of the body? These questions cover etiology, diagnosis and treatment, which are as fundamental in the management of chronic diseases as of acute diseases.

Before submitting the answers to these questions I wish to clarify certain medical nomenclature which is generally confusing. I refer to such terms as "chronic dyspepsia," "neuralgia of the stomach," "gastralgia," "gastro-intestinal catarrh," etc. These are merely cloaks to cover one's ignorance and should be dismissed from our vocabulary. The intelligent laity is aware of this. Those who are responsible for the teaching of medicine should impress this upon the medical student, and should not permit him to use the terms in a loose and meaningless way. They lead to slothfulness and indifference on the part of the physician. If they are accepted without analysis in the taking of a history, they are hopelessly confusing. How many patients will give as their chief complaint "gas on the stomach" or "gas in the bowels," when they refer to abdominal symptoms? From my own records I find over 80 per cent. Abdominal symptoms demand a peculiarly grilling analysis. They must ultimately be interpreted as pain, sharp or dull, or cramp-like, as soreness, heaviness, etc. They must be fixed, chronologically, with reference to function of organs and systems, and with the events of daily life. These points are so self-evident they need no further discussion.

Constipation is a symptom of more than ordinary importance. The chronic patient has just grounds for arraigning the medical profession for the woeful lack of intelligence displayed in the treatment of chronic constipation. If I were asked by a State or National Board of Examiners for medical licensure to propound a single question upon which the applicant is to show his qualifications on the subject of internal medicine I would unhesitatingly submit the following: *Define constipation, and discuss in detail from the standpoint of etiology and treatment.* The answer to this question would give me an opportunity to ascertain what the applicant really knows, not only of the theory of medicine, but of the actual practice as well.

It is not appreciated and it is not generally taught that constipation is a condition more frequently due to habit than any other single cause, and that the habit of the regularity of the bowels may be established in the first few weeks or months of life. It merely requires the nurse or the doctor who has charge of the infant to give due consideration to the care of the bowels, and to instruct the mother to follow certain definite lines. From a study of over 1,400 cases in which the diagnosis of appendicitis was made, I have been greatly impressed with the frequency of chronic constipation. I believe it is an important etiological factor, especially in certain forms of chronic appendicitis. Considerable is said these days of the relation of diseased tonsils to certain well-known diseases. I have heard of and have myself con-

templated the removal of tonsils because of a supposed diseased appendix. I believe the recognition and the care of chronic constipation is of far greater importance in these cases than the removal of questionable tonsils. Constipation in the adult, especially if it gradually becomes more marked, is often one of the first symptoms of carcinoma of the bowel. It is frequently a symptom of more than ordinary significance. The treatment of this condition demands careful consideration. That our efforts in this direction are not what the public demand is evidenced by the patent medicine advertisements noticed on every wayside fence, barn and sign board. Aside from the lack of habitual attention to the wants of nature, and aside from dietetic errors on the part of the patient, probably the most frequent cause of constipation is a certain spasticity of the bowels. The cause of this may be remote. This spasticity is often overcome by the use of Belladonnae or its alkaloid, administered to the physiological limit over a considerable time. My feeling is that Belladonnae holds the same important relation to certain disturbances of the gastro-intestinal tract that Digitalis does to those of the cardio-vascular system. We do not use it as often or with the persistence we should.

Our lack of a proper consideration of chronic *looseness of the bowels* is of similar significance. Etiology is again an important factor. Aside from errors in diet and from certain infections, most diarrhoeas are due to a physiological disturbance of glandular secretion, for example, achylia gastrica, or to a neoplasm, or to chronic obstruction. The ordinary so-called "diarrhoea mixture" under such circumstances is a discredit to the physician and may do positive harm to the patient, especially if the mixture contains an opiate. It is remarkable how often dilute hydrochloric acid, or an alkaline powder, or even a warm salt water enema, together with a slight change in diet, will correct a diarrhoea. Additional astringents or opiates are rarely necessary.

The diagnosis of *chronic gastritis* should not be made until all other possible disease and conditions are excluded. The dietetic sins and therapeutic errors which are committed in the treatment of a supposed "catarrh of the stomach" are almost beyond atonement. In the large majority of cases the gastric symptoms are due to disease in distant organs and no amount of treatment directed specifically to the stomach will bring the desired relief.

Peptic ulcer may be only the manifestation of an underlying disease which has not yet been fully comprehended. At least we do not know the etiology, we may not recognize the early symptoms, and our treatment is accordingly largely empirical. We are acquainted with the symptoms of "hunger pains," and we know that peptic ulcer is frequently associated with a so-called "hyperchlorhydria," but how often do we hear the recounting of these symptoms by the earnest patient and pass them by with a few careless admonitions as to diet and a few suggestions concerning the relief from bicarbonate of soda? These patients are entitled to more careful consideration because they may be at the very beginning of a course of invalidism which may include repeated periods of suffering, an acute surgical condition, or repeated operations, and finally death. The differences of opinion as to the treatment of peptic ulcer, whether it shall be medical or surgical, come largely from our inability to determine the exact condition of the ulcer as to whether it is acute or chronic, and whether or not the stomach has already sustained considerable damage.

From my own records, as shown in the following table, I find I have made the diagnosis of peptic ulcer 1,551 times. Most of these were already chronic or were in an acute exacerbation of a chronic form. Many of these diagnoses were not verified by either X-ray or operation, but no other diagnosis could be made.

I. Table of Diagnoses.

No. of cases of peptic ulcer	1,551
No. of cases of chronic appendicitis	1,443
No. of cases of Biliary tract disease	1,386
No. of cases of Pancreatic Disease (verified 11)	25
No. of cases of carcinoma of digestive system	478
No. of cases variously diagnosed (doubtful)	3,011

I am convinced from what I have seen in the operating room that peptic ulcer, unless it has advanced to a definite induration, is not easily diagnosed, even when the surgeon holds the stomach or duodenum in his hands. In fact the indurated ulcer when situated on the posterior wall is not infrequently overlooked. Also I am strongly suspicious that an ulcer which has very little or

no indurative base does not show a satisfactory "filling defect" in the X-ray shadow. This very naturally brings me to the conclusions that a diagnosis of peptic ulcer based upon the history, physical diagnosis and certain laboratory tests is more reliable than one based on X-ray alone and about as reliable as verification in the operating room. It is not unreasonable to conclude that if cases of peptic ulcer were promptly and persistently treated medically, in the acute stage, the large majority would make a satisfactory recovery and chronic peptic ulcer would not be so frequent. It is the ulcer with complications, such as perforation, stenosis, perigastric adhesions and hemorrhage which requires operation. So far as our present experience is concerned neither medical nor surgical cure in a given case will prevent a recurrence. There should be considerable propaganda of an educational type among the laity so that the patient will consult a physician early when abdominal symptoms are experienced. Surgeons are beginning to admit that there is a medical treatment for peptic ulcer, but it seems that the general practitioner and the internist continue to show very little interest in the early stage—when a medical cure might be possible.

Our experience in *Carcinoma of the stomach,* as well as of other of the abdominal organs, impresses us with the fact that we do not recognize the symptoms early enough to introduce the only successful treatment—surgery. Radium treatment in the abdomen is as yet far from being an established procedure. When the symptoms of cancer of any of the abdominal organs arise the chance for recovery is already gone. This is one of the large problems confronting the internist today. Among my own cases I have found and verified 478 cases as follows:

TABLE II. CANCER OF ORGANS OF DIGESTIVE SYSTEM.

Stomach	342
Bowels	44
Oesophagus	26
Rectum	26
Biliary Tract	18
Pancreas	15
Omentum (Secondary)	2
Liver (Primary)	2
Total	478

These are all dead but a few, and they will die soon. What are we doing in the way of obtaining earlier symptoms and data of this chronic condition? In our clinic we have begun routine sugar tolerance test to determine the "sustained curve." So far we have had some striking positive results, but we have also had some disappointments. The method will be continued. Gastric analysis, stool examination and X-ray examination, done repeatedly, are of the greatest importance in suspected cases.

The symptoms referable to, or those supposed to result from a *chronically diseased appendix,* present a large problem. In the same group of patients which included 1,443 cases of chronic appendicitis, only 112 acute cases occurred. Of the 85 acute cases which were operated all but two were well. Of the 400 chronic cases only about 60 per cent showed satisfactory results. My results were not different from others, I infer, because of 517 patients who consulted me because their symptoms remained the same after operation as before operation, 243 had been operated for chronic appendicitis.

TABLE III. OPERATIVE FAILURES.

Chronic appendicitis	243
Chronic appendicitis and pelvic disease	78
Chronic appendicitis and gall-bladder disease	44
Chronic appendicitis and peptic ulcer	9
Gall-bladder disease	47
Pelvic diseases	41
Peptic ulcer	16
Promiscuous diseases	39
Total	517

Comparing these results with those of the acute cases one is impressed with the fact that prevention of chronic appendicitis is easier than cure. It is possible that we are stressing the interval operation too heavily and soft pedaling on the necessity for operation immediately during the acute attack or as *soon thereafter as conditions permit.* It seems that some of the profession are of the opinion when once over an attack the only danger is a recurrence and that it will likely be of a milder type when it does recur. When a patient survives an acute attack, he is likely, unless he is properly impressed, to take another chance and so on until an emergency operation will have to be done or

until he becomes a chronic invalid. The pathology which some of these neglected cases present shows very definitely why the operations are frequently unsuccessful. Another cause of the unsatisfactory results no doubt comes from being a little too sure that the chronic appendix is the cause of the abdominal symptoms and operating before the case is considered from every standpoint. It seemed quite significant that most of the failures were of patients who carried a small oblique abdominal scar from an incision in the region of McBurney's point, which naturally could not permit of a thorough examination of the abdominal cavity. Occurrences of this kind are responsible for a complex of abdominal and general symptoms difficult of interpretation and more difficult to overcome. The medical treatment of these cases should receive more careful consideration.

TABLE IV. CASES OF ACUTE APPENDICITIS.

	Operated	*Cured*	*Died*
Males	50	49	1
Females	35	34	1
Total.....	85	83	2

	Not Operated	*Apparently Well*	*Died*
Males	12	12	0
Females	23	23	0
Total.....	35	35	0

TABLE V. CASES OF CHRONIC APPENDICITIS.

	Operated	*Cured*	*Died*
Males	159	125*	4
Females	241	100	1
Total.....	400	225	5

	Not Operated	*Well*	*Died*
Males	459	(?)	0
Females	461	(?)	0
Total.....	920	(?)	0

*(Approximately).

Diverticulitis, and especially of a Meckel's Diverticulum, may produce confusing abdominal symptoms. They are so like the symptoms having their origin in the appendix that differentiation is at times impossible. In the chronic abdomen X-ray examination is of considerable help.

Of the cases having abdominal symptoms, 1,386 were diagnosed as having *Biliary Tract Disease.* These were either gall stones, or the various forms of cholecystitis or malignancy. Only 301 were operated. Of these 129 were for inflammation of the gall-bladder and ducts, and 172 for gall stone and its accompanying conditions.

TABLE IV. *Gall Bladder and Duct Diseases.*

No. of cases of gall stone, diagnosed.....	738
No. of cases of gall stone, operated	172
No. of cases of cholecystitis, diagnosed.....	649
No. of cases of cholecystitis, operated	129
No. of cases of carcinoma of biliary tract.....	17

The results of the gall stone operations were satisfactory in a large degree, but those for cholecystitis have been in the main disappointing. From recent publications I conclude that my experience is the same as that of other clinicians. What is the explanation? It is my experience that patients suffering from biliary tract diseases are difficult to persuade to follow directions. When they suffer most acutely and are willing to be operated, operation is usually not advisable. After the attack is over it is usually not convenient to the patient to be operated. In this respect gall bladder and duct diseases differ widely from disease of the appendix. This may explain why so small a proportion of these cases collected have been operated and I believe it also explains why gall stone cases have been operated more frequently and with better results. They consulted the doctor earlier and followed directions more readily because their symptoms, at least to them, were more definite.

Fortunately the introduction of the Lyon test is gradually bringing about a change. Lyon's work has been bitterly assailed. I am not here to defend it, but since the introduction of this test in our clinic we have had a larger proportion of operations and we have found our diagnoses more nearly correct. For example—of forty-seven cases showing no "B-bile," forty had either an obstruction of the common duct, or had the gall bladder full of stones or it was entirely obliterated. This test may prove of great advantage in determining the onset of biliary tract disease, which is the only

hope of, in a measure, preventing chronic disease and of the avoidance of surgery.

It may also lead to a better clinical comprehension of *diseases of the pancreas*. It will be noted how relatively few cases of disease of the pancreas were recognized. These were largely malignant or cases of acute pancreatitis. I am sure there were more but we were unable to make the diagnosis. A number of abdominal cases, especially gall bladder cases, operated, were said to give the gross appearance of a "pancreatitis" but these were not included in our collection. It is hoped with the more careful study of the duodenal contents and with the additional information concerning the relation of the pancreas to diabetes mellitus, chronic symptoms of the pancreas will be more easily interpreted.

It may be of some slight interest to note that 380 cases of diabetes mellitus were found in the group of cases from which the cases of appendicitis, gastric ulcer, etc., were separated. Only five of these were associated with gall bladder and duct disease. The relation between the two diseases seemed quite suggestive.

Reference has already been made to the *vomiting of pregnancy*. The abdominal symptoms arising from *extra uterine pregnancy* and also from certain malpositions of the pelvic organs, as well as the symptoms arising from *weakness* of the *pelvic floor* need not be discussed under this head, though they are all responsible at times for more or less grave symptoms.

Not a few of the symptoms arising from the chronic abdomen are due to *faulty posture* and the *associated ptoses*. The orthopedists have rendered a great service to the medical profession in calling our attention to the significance and management of faulty posture. In our time no one has done more to show the relation between orthopedics and internal medicine than Dr. Joel Goldsmith. Not only the profession but mankind in general are indebted to him. I have seen a number of cases of so-called "sacro-iliac strain" which presented symptoms of pain not only over the sacro-iliac joint, but in the region of McBurney's point as well. Some had been of the opinion that they had chronic appendicitis. In fact they were told they had. A proper corset, or pelvic girdle, with instruction as to how to stand and sit properly corrected the trouble. The dragging tension and kinking which result from a ptosis of the kidneys, stomach, colon or liver may produce confusing abdominal symptoms. The intense pain associated with a Dietels crisis is a good case in example. All degrees of pain may occur in the same way. Before the application of orthopedic principles these cases were badly managed. Surgical procedure had been largely a failure, and medical treatment, which was largely dietetic and hygienic was not sufficient.

The most confusing condition in the abdomen to interpret is *adhesions*. Whether due to local pathology or whether resulting from operation, they produce a symptom picture which may be interpreted in terms of any of the conditions heretofore mentioned. Especially is this true when the omentum is involved in the adhesions. It is not uncommon, according to my experience, to find the omentum held in a mass of pelvic adhesions, or in a mass of adhesions about the head of the caecum in a case where definite symptoms of pyloric stenosis, or even of carcinoma of the stomach have been in evidence. Adhesions between the stomach and liver or between the gall bladder and duodenum may produce symptoms, and give X-ray evidence, which are quite misleading. In a case bearing the scar of an abdominal incision it is best for one to discount all evidence of suspected disease to the extent of about fifty per cent when making a diagnosis.

The abdominal symptoms which arise from an incomplete inguinal or femoral hernia or from a ventral hernia, especially if situated in the epigastrium, or in the umbilicus, may be quite misleading.

Changes in size and contour of the abdomen, coming on at any time of life should be carefully considered. It is not unusual to find ascites as the earliest recognized symptom of a Laennecs cirrhosis of the liver, or even of a tubercular peritonitis. The abdominal symptoms arising from a hypernephroma, or from an enlarged spleen or liver, may be only a heaviness or fullness and yet they may be the first symptoms noticed of a grave disease.

It will be noticed that somewhat over 3,000 patients had various or doubtful diagnoses. Many of these had a simple hyperchlorhydria. This is looked upon as a symptom and not as a disease. Many of the peptic ulcers, the chronic appendix,

and the biliary tract cases had a hyperchlorhydria, but in quite a number no definite diagnosis could be made. Hence they were diagnosed as "hypo- or hyperchlorhydria, as the case might be, of unknown origin." They represent diagnostic failures. From time to time as the case can be observed and studied a diagnosis is made and the case is reclassified. Sometimes this does not happen until after a laparotomy.

Thus far it has been my object principally to call attention to the difficulties and shortcomings which beset one in the interpretation of abdominal symptoms, also to the general tendency for the physician to belittle these symptoms because they are chronic and to defer definite and intelligent remedial measures.

Such destructive criticism is of little value unless it is accompanied with a constructive plan to overcome these difficulties.

In this plan the *first* and most important point is the *necessity for prompt and serious consideration* of the *early* and *apparently trivial abdominal symptoms*, so as to avoid chronicity. The application of this principle in diseases of the chest, in tuberculosis alone, has been the greatest factor in reducing the incidence and mortality of pulmonary tuberculosis.

The *second* is the *adoption of a routine plan of examination* of the abdominal case. This should, of course, include history taking, physical examination and laboratory investigation in a thorough and comprehensive manner. For some reason or other, probably because there are no pathognomonic signs and symptoms or because of a certain suspected unreliability of laboratory technique, the average physician does not seem to give the same attention and thought to abdominal symptoms as he does to those in other parts of the body—the chest for example. The laboratory tests, such as of the gastric contents, doudenal contents and the stool, string, blood, X-ray examinations, etc., if they are done at all are done with apparently very little confidence. There are very few laboratory tests that give us pathognomonic information, and the tests applicable to a study of the diseases of the abdominal organs are about as reliable as any. All laboratory tests must be interpreted. Many should be repeated from time to time, as results are often not dependable. This is particularly true of X-ray examinations.

The *third* is the *necessity for following observations* and a *certain definite treatment* until one can feel sure that results are forthcoming. If, after a reasonable time, the treatment established is not followed by satisfactory results, the diagnosis should be revised if possible, by repeating certain of the tests and observations. It is here that the cooperation of the internist and the surgeon are exceedingly helpful. When such cooperation is genuine and intelligent it may prove of great benefit to the patient, as well as be a credit to the profession.

4634 Fifth Ave.

THE RELATIONSHIP OF THE SURGICAL ABDOMEN TO THE CHRONIC PATIENT.*

BY EDMUND ANDREWS, M. D.,

CHICAGO.

The patient complaining of chronic abdominal disorders usually comes to one with a long sad story of unsuccessful treatments at the hands of numerous physicians. The natural corollary of this undoubted fact is that the chronicity of the disease is due to our ignorance. I shall therefore attempt to review what I believe to be our commonest errors. Most of them are due not so much to ignorance as to carelessness, that is to insufficient study of the patient as an individual rather than as a pathological belly.

As one of our most eminent diagnosticians has stated, the commonest cause of stomach-ache is cardiac disease, the next is lung tuberculosis, and the third is disease of the stomach itself. Hyperthyroidism must also not be overlooked. Toxemia from any source must always be considered, as well as swallowed septic material from the nose, throat or lungs. All these possibilities point to the necessity of a complete, thorough physical examination.

Almost every sort of abdominal pathology may be closely simulated by disease of neurogenic origin. This type falls into two classes, those with definite nervous lesions and those which are purely functional. Under the first heading I may note that of a series of cases of gastric crises of tabes recently studied, the great majority had undergone laparotomies.

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*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 7, 1922.

The second class, the neurasthenics, presents the greatest difficulties and includes the majority of our chronic invalids. Many are hopeless, but a larger number can be cured by rational advice and education. The simplest cases are those whose symptoms have only a nervous basis. Later real abdominal pathology may result, probably neurogenic in origin, dilated stomach, atonic or spastic colon, etc. Even these usually respond to treatment.

The next stage brings us to a point where a crime is often committed. This may be done either by an internist or by a surgeon. The internist's crime is in the prescribing of cathartics. Temporary relief may result, and the patient soon gets into the habit of taking daily physics. Cathartic colitis thus superimposed on a case of nervous colitis is such a common picture as to need no further comment. Needless to say, the withdrawal of the cathartics leads at once to marked improvement, especially in the constipation. The other crime I mentioned is surgery. No possible good can result and the opposite is generally the case. This I will discuss later.

So much for the general aspects of the problem. Now let me enumerate what I consider to be the commonest actual mistakes.

First, as to the gall tracts. Even in our standard text books there is but scanty reference to the effect of gall bladder disease upon the stomach. Gallstone colic is described in detail. Cholecystitis, common and cystic duct obstruction are all luridly pictured. These spectacular phenomena are not, however, the real curse of gall tract disease. Many a patient would endure the occasional colic but few can endure the chronic dyspepsia which so often replaces it. Many believe that all the symptoms of gastric ulcer arise from pylorospasm. We know that cholecystitis may cause this pylorospasm and with it practically the whole train of ulcer symptoms. In a few cases the differentiation is literally impossible and only at operation do we discover the true pathology. Generally, however, if the case is carefully studied the diagnosis can and should be made. Unfortunately, ulcer management will generally cause a temporary disappearance of all the symptoms, and thus we are confirmed in our mistake by the therapeutic test, and only the occurrence of a colic can set us right.

Another common mistake is to rush too hastily into second operations on the gall tracts. I believe that a large share of the benefit derived from cholecystectomy is due to the ensuing dilatatior of the common duct. I also believe that no matter how thorough an exploration is made, there will often be a number of stones overlooked in the common or hepatic ducts. The occurrence of colic within a few weeks of the operation is most distressing, but should not lead us into hasty surgery. If ample time is allowed for the ducts to dilate as they most surely will, the chances are very greatly in favor of a spontaneous cure. Six months should be the minimum time allowed. If the colics appear to have been growing milder more time still must be given.

Stomach. The diagnosis of stomach disorders is always difficult and mistakes are bound to occur. Moynihan has often pointed out the disastrous results of gastroenterostomy done in the absence of the proper indications, ulcer or pyloric obstruction. Ulcer either in the stomach or duodenum causes spasm and hence at least partial obstruction of the pylorus. As shown by actual manometer tests, the intragastric pressure averages higher in ulcer cases. But suppose the stomach is atonic. The making of a new opening creates only a new entrance and not a new exit. Vomiting and distress invariably become worse. Therefore if we cannot find gastric pathology let us have the courage to admit our mistake and get out with doing a gastroenterostomy in the hope of "draining" the stomach.

Appendix. What is chronic appendicitis? Is a chronic pain in the right iliac region indicative of it? My answer would be most decidedly in the negative. Chronic appendicitis is a prolongation of the earlier symptoms of the acute type. What are these? They are vomiting and diffuse bellyache. If the pain is localized at all in the early stages it is usually referred to the umbilicus. Pain over the appendix as a rule comes later. A whole wealth of recent literature proves that the real symptoms of chronic appendicitis are those above mentioned. Several long series of careful followup reports show that the cases with this syndrome are relieved by appendectomy and those with only a right lower quadrant ache are not. This latter type is made up mostly of the neurasthenics and the operation only aggravates their condition.

Exploratory laparotomy. This has been a life-saving measure in an enormous number of cases, but I believe that it is only warranted in those acute conditions where life is in danger. Exploratory operations to find the cause of and cure a chronic bellyache cannot be too strongly condemned. It is only in the abdomen that the surgeon has been lead to commit such atrocities. What would we think of the man who did a craniotomy to ascertain the cause of headaches, or who opened the knee joint to find out why it hurt? Why can we not adopt the position that there are "functional" bellyaches as well as functional headaches and admit our helplessness before them, at least as surgeons. In most of such exploratories no pathology is found and then the operator triumphantly demonstrates the presence of a few adhesions which he proceeds to divide and the operation has been a grand success. We all know perfectly well that adhesions are of no moment and do no harm in the vast majority of cases, unless there is an actual constriction of the bowel or something of that sort. The discovery at an operation of masses of dense adhesions matting whole yards of intestine together in patients who have never had a complaint should warn us of the futility of reckoning on adhesions as a cause of pain.

Finally I want to make a plea for the absolute abandonment of what one might call the orthopedic surgery of the intestine. I know of no evidence that the stomach cannot digest in the pelvis as well as under the liver, or that the kidney cannot do its work beside the uterus, or that a colon can be handled like a gas pipe and tapped, shortened or straightened to any advantage. It is common knowledge that viscereoptosis is as common in healthy as in sick people.

Let us return to the older and more rational view of such things. Misplaced organs become diseased in two ways and only two, i. e., by interference with their blood supply or by inability to empty their lumina. The former is typified by a twisted ovarian cyst and the latter by a Dietl's crisis. The symptoms of intestinal obstruction are, acute pain, hyperperistalsis, vomiting and distention. It is as plain a clinical entity as one could imagine. Yet we all know of operations done to relieve intestinal obstruction which presents none of these symptoms. A patient with constipation of a purely functional type is radiographed and kinks, stasis, redundent sigmoid, incompetent ileocaecal valve or some such imaginery pathology discovered and the result is some operation which is the first step in the manufacture of the chronic invalid.

Can we not go back to the more conservative indications for surgery? Especially now that we have all had the opportunity to see the disastrous results of all these plications, fixations, "pexies," and short-circuitings of which so much has been heard.

A STUDY OF HYPOTENSION.

A consideration of the blood pressure records in 440 cases of absolute hypotension and in 145 cases of relative hypotension suggests to Stewart R. Roberts, Atlanta, Ga. (*Journal A. M. A.*, July 22, 1922), that hypotension seems to be equally distributed between the sexes. Hypotension patients have proportionately more normal hearts than have normal persons or hypertension patients. As the pressure rises the heart is more likely to be diseased. The pulse rate is not a determining factor in hypotension. It tends to rise only very slightly with rising pressure. The rate of the pulse is more dependent on the sex than on the blood pressure. Hypotension may accompany different diseases. It is difficult to prove the influence of the disease in the causation of the hypotension because, as a rule, the pressure before disease is unknown. The lowest pressures occur in secondary anemia, pellagra, somasthenia, neuroses, tuberculosis, and the acute infections of the respiratory tract. Relative hypotension is a term that should probably be restricted to persons of 45 years and older whose pressure ranges between 111 and 119, both inclusive. The classification of hypotension is important because it separates hypotension in health from hypotension in disease and makes clearer the intricate problems of low blood pressure. Hypotension is not a bar to insurance in the old line companies, although in one series of 3,389 accepted candidates, the death rate was two-thirds greater than the expectancy tables would indicate. Women seem to develop hypotension at an earlier age than men, as indicated by two series of cases. The percentage of the hemoglobin is not a determining factor in hypotension. In disease of the circulation, secondary anemia is the most common accompaniment of hypotension. Arteriosclerosis and myocardial diseases are relatively rare. Focal infections are common accompaniments of hypotension. In sick adult negroes there are more cases of absolute hypotension than of hypertension. Hypotension seems to tend to accompany acute diseases characterized by fever and chronic diseases characterized by diarrheas, as amebic dysentery, sprue and pellagra.

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EDITORIALS

AN IMPORTANT DUTY

THE House of Delegates, representing every county medical society in the state, has voted unanimously to levy a special assessment this coming year by raising the 1923 dues five dollars. This is to provide an adequate fund to safeguard your interests and the interests of every Wisconsin physician during the coming legislative session, and to inaugurate new activities by the State Medical Society, which will be of untold value to you. It is not fair to ask a few to finance and do this work for you. Worth while effort can only be accomplished by each member contributing his share of time and financial backing. You are the State Society. It will give you just what you put into it. It is your plain duty to pay your dues by January first. Send them to your county secretary today, and tell him you stand ready to do your part.

OBJECTION TO MEDICAL SOCIETY DUES

PURELY selfish interests alone should encourage the medical man to associate himself with the state medical association, and pay any assessment that may be asked when he knows that the money so paid will be for his own as well as the general good of the profession. The medical defense feature of our Association alone is worth double what membership costs, and we believe that every member of the Association will admit that THE JOURNAL is worth the membership fee.

One of the reasons why we never have been able to accomplish all that should be accomplished in the way of protective medical legislation and the suppression of incompetents and quacks, has been because doctors do not hold together, and many of them are forever complaining about an insignificant expense which must be assessed on the individual members in order to keep up the organization. Even the chiropractors pay from $10 to $15 a year membership dues, and they cheerfully subscribe from $10 to $100 each toward a legislative fund for the purpose of paying expenses in securing the legislation that is favorable to them.

Certainly the members of the regular medical profession ought to adopt a new spirit of liberality toward the support of their medical societies, and just now there is every reason why they should "cut the belt" and donate to a fund to be used in promoting the right kind of medical legislation, and they are "cheap skates" if they go at it in a niggardly fashion.—*The Journal of the Indiana State Medical Association.*

APPOINTMENTS IN THE OFFICER'S RESERVE CORPS OF THE ARMY OF THE UNITED STATES.

ALL Army medical officers will long remember the almost unsurmountable difficultes that had to be overcome not only by those who were endeavoring to organize the members

of the medical profession for Army service at the beginning of the World War, but also those who offered their services at great personal sacrifice. Every one realized that confusion occasioned by the difficulty of securing accurate information, uncertainty as to the assignments that would finally be made by the Army officers in high authority and other difficulties hampered and delayed the progress of the work. These loyal citizens and coworkers will realize at once the importance of the welcome news that for the first time in its history, Congress has endeavored to provide the country with a policy of national defense by making provision for an effective military organization which by proper assignment and training will have an organized military reserve and almost complete military units ready for immediate service if necessary.

The National Defense Act of June 3, 1916, and subsequently amended, provides that the Army of the United States shall consist of the Regular Army, the National Guard while in the service of the United States, and the Organized Reserves, including the Officer's Reserve Corps and the Enlisted Reserve Corps. Thus the regular Army is no longer a separate establishment and the Officer's Reserve Corps is therefore a component part of the Army of the United States as is also the National Guard.

It is urged and expected that the medical profession will show its appreciation of this first effort and to this end the older members of the profession will, it is hoped, lend their much needed assistance in the initial stage of the movement in order that their experience and counsel may be available to guide and assist the younger men until they may gain the necessary experience to fill the places of responsibility in the future.

The success of this, the first venture of similar nature that the American Congress has ever offered the people of this country, rests entirely with the medical profession. The organization of the medical department must be directed and controlled by the best element in the medical profession if medicine and surgery are to be creditably represented.

The regular army is impotent from a political standpoint and the suggestion from that source that there is need of an additional force, even to the extent of a corporal's squad, brings lurid visions of a military oligarchy to the sensitive retina of the legislator jealous of the "divine rights" of the civil authority.

Any adequate defense this country may ever expect must come from her citizen soldiery and to be effective they must be organized. To give this important movement the necessary initial impetus the creation of a committee on military affairs in the state and county medical societies is suggested.

During the war when the pressure for time was so great many a man was misplaced and incompetent officers assigned to positions of responsibility. Such occurrences were inevitable. Many an able and conscientious officer was not given the promotion and assignment he deserved while others unqualified either by personality or ability came into positions of authority and rank totally beyond their measure.

All these unfortunate incidents resulted not from design on the part of the War Department, but were the inevitable consequences of the sudden and enormous expansion under the grilling stress of war.

These unfortunate occurrences will be studiously avoided so far as humanly possible in the final alignment of the Organized Reserve. The promotion system is well defined and provides a fair and impartial method.

Wisconsin is lagging behind neighboring states. A little concerted effort on the part of the profession will place the state among the leaders and set an example to the line worthy of emulation.

The Act of June 20, 1920, divided the Army of the United States into three component parts. The Regular Army forms the first line of defense and garrisons this country and foreign possessions as the Canal Zone and Hawaii.

The National Guard constitutes the second line of defense and is available for minor emergencies by both state and federal authorities and by the national authorities for major emergencies.

The Organized Reserve provides the third line of defense to be employed only when Congress declares the existence of a national emergency. Strike duty is not for the Organized Reserve.

Training periods of fifteen days a year are provided for the Organized Reserve but are optional with the officer. When attended the officer draws the same pay as an officer of the same rank in the regular establishment.

Commissions are issued for a period of five years

and may be resigned at any time except during the existence of a national emergency.

All the world knows the record of Wisconsin in the World's War which has become a matter of national pride. This splendid service would not have been possible had it not been for the service which Wisconsin medical and surgical representatives rendered.

Let us, then, while there is yet time prepare ourselves for future emergencies by taking an early interest in the Medical Officer's Reserve Corps so that important positions may be assigned to the men best qualified, under Wisconsin's units, that may be in line for future good assignments and promotions.

The Regimental detachments are now being completed and the organization of the 370th Medical Regiment has just started. This will be followed by the organization of Surgical, Station, and Evacuation Hospitals.

Further information and application blanks may be obtained from any of the following officers:

Major Herbert B. Hanson, M. C.,
315 Pereles Bldg., Milwaukee, Wis.
Major Frank D. Applin, CAC.,
P. O. Bldg., Racine, Wis.
Major Charles S. Buck, Inf.,
No. 2 S. Carroll St., Madison, Wis.
Major Lee Sumner, Inf.,
Room 31, P. O. Bldg., Eau Claire, Wis.
Major Albert Tuckner, Inf.,
636 Appleton St., Appleton, Wis.
Capt. T. R. Bartlett, CAC.,
P. O. Bldg., La Crosse, Wis.

AS OTHERS SEE US

Editorials from the Lay Press.

The Medical Trust.

Seventy-five years ago, May 5, 1847, there was founded an organization, the purpose of which, as outlined in its constitution, was as follows:

"For cultivating and advancing medical knowledge; for elevating the standard of the medical profession; for promoting the usefulness, honor, and interest of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession, and for facilitating and fostering friendly intercourse between those engaged in it."

That organization was our American Medical Association. The question of raising the standard of education was the chief point of dissension in founding the association. Three to four months a year for two years was the curriculum at that time and it was thought that the terms should be increased from four to six months. Those opposing raising the standards said that this was an aristocratic feature of the worst omen; that it would cripple the medical colleges, and that it would prevent the young men of limited means, who otherwise might be of benefit to humanity and a credit to themselves, from taking a medical course.

However, it was decided that the young men who had not mental energy and perseverance sufficient to comply with the new standard, had not enough of these qualities to enable them to do justice to a profession so extensive, intricate and arduous as the medical profession; so the point was carried and the educational requirements were raised.

Since the inception of the American Medical Association, seventy-five years ago, its standards have been raised again and again, until the preliminary or fundamental educational requirements consist of four years high school and two years collegiate work; the professional or medical training is four years, with eight months study each year, and one year in an accredited hospital; making eleven years' training after the grammar school for the minimum training.

When this standard was accepted by the American Medical Association (the so-called "Medical Trust") a few years ago, quite a number of medical colleges that did not come up to the standards had to cease to exist as medical colleges. Many men and women who wanted to become doctors and did not have the education required, flocked to the different cults that had no standards of education whatever as a preliminary to entrance and no standard professional course, many of them offering correspondence courses.

In some states these cults are given a license to practice if they pass the examination with a grade of 75 per cent in the subjects they teach—if they have a high school education. But there is the rub. Very few of them have, so now some of them are trying to get boards of their own so they can all be licensed.

If it is a question of the life or death of you or your children and you call a doctor, do you not want your state to assure you that this "doctor" shall have at least a mind trained as much as a high school graduate?

The relation of the physician to the public is comparable to no other profession. No trust is so sacred as the health and life of the individual and of the community. I believe the time will come, and should come, when the standards for the fundamental education and for the professional training of all those who desire to assume this grave trust will be the same. Then the graduate can take special training if he desires to specialize in mechanicotherapeutics, mental therapeutics, surgery, or any other branch.

What do you think of this question? More boards or more education?—*The Milwaukee Sentinel.*

THE JOURNAL CLINIC

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SPONTANEOUS HEALING OF A BRONCHIAL FISTULA.*

BY JAMES P. DEAN, M. D., AND R. L. GILMAN, M. D.,

MADISON.

Bronchial fistula following empyema complicating lobar pneumonia is not an uncommon sequela. Its occurrence invariably calls for surgery with the usual long continued repair processes. Instances of spontaneous closure are rare in medical literature and a survey of recent contributions to empyema literature does not disclose any similar instances.

The following case has been thought to be of sufficient interest for discussion. It presents a post-pneumonic emypema of some months standing with subsequent conservative (closed) surgical treatment and the healing spontaneously of a bronchial fistula. The case history has been given in more or less detail in order to develop its progress as shown by daily physical examinations, roentgenographic studies, and laboratory reports.

CASE

L. S., age 30 years. Man admitted to the medical service of Bradley Memorial Hospital, July 17, 1922.

C. C. Cough and increasing weakness.

H. P. I In March of the present year, the patient had a "double pneumonia," following which after four weeks empyema developed on the right side. Two pints of purulent fluid were removed by aspiration at that time. Since then he has been aspirated twice weekly up to the time of admission. The patient was in bed for six (6) weeks at the time of his illness. His condition was fairly good up to two weeks ago at which time his cough and weakness began to develop. The cough is not violent nor painful but is irritating and productive of heavy mucopurulent sputum. There has been no hemoptysis. His present weakness has driven him to his bed. Has had night sweats the past two weeks.

Gastro-intestinal, cardio-vascular and genito-urinary —no symptoms.

Before the pneumonia weight was 163 pounds; is 130 at present.

P. M. H. Is virtually negative.

S. H. Irrelevant.

F. H. Of no direct bearing.

Physical examinations No gross pathology in nose, throat or ears. The chest is long and narrow with deep supra-scapular fossae. Breathing is quick and labored mostly abdominal in type. Great reduction of expansion, bilaterally with but little excursion of lower right chest. The left chest, anteriorly, shows slight increase in T. F. and hyperresonance. Breath sounds are bronchial in character anteriorly and almost tubular posteriorly. The right chest, anteriorly, exhibits almost normal T. F. and Skodaic resonance down to the 4th rib anteriorly; below this level T. F. is absent. Percussion note is flat and breath sounds are absent. Posteriorly the upper level of flatness is the 7th space. Breath sounds above this level posteriorly are bronchial with fine moist râles. Diaphragmatic movement not demonstrable on the right side.

Heart. Virtually normal.

Abdomen. Negative.

Extremities. Blood pressure, 102/60. Both upper and lower extremities show advanced wasting. Finger nails are cyanotic and curved. Reflexes normal.

Diagnosis. (1) Empyema, right; (2) Bronchial fistula.

July 17, 1922 (Admission). Temperature 101°, Pulse 120, Respiration 31, Hb. 69%, R. B. C. 3,510,000, W. B. C. 21,600.

3rd Day. Temperature 101, Pulse 110, Respiration 29. Transfusion of 500 c.c. of whole blood, followed by intercostal drainage—puncture being made in the 7th interspace posterior axillary line. A long rubber drainage tube was carried down to a bottle at the side of the bed, the end of the tube being submerged in

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*From the Bradley Memorial Hospital, Department of Clinical Medicine, University of Wisconsin.

water. Drainage of 41 ounces of thick green purulent material ensued in the following 14 hours. Institution of twice daily irrigation with warm normal saline colored with methylene blue was started.

4th day. Flatness of right base posteriorly replaced by dullness. Evidence of pneumo-thorax and bronchial fistula. Lung has appearently expanded. Temperature 99°, Pulse 118 and Respiration 30.

5th day. Inverted bottle of water connected with drainage tube to remove the air coming from the "cavity." 1,750 c.c. of water displaced in this manner in 50 minutes. The original size of the cavity as judged by the first free drainage was 1,230 c.c.. Each cough of the patient during this procedure was accompanied by displacement of approximately 100 c.c. of water; passive expiration contributed but little to the total air output. Drainage continued good. No staining of sputum with methylene blue.

9th day. Condition much improved. Drainage and sputum lessened. Institution of one-fourth strength Dakin b.i.d. followed with normal saline washing of cavity—eight (8) ounces twice a day to avoid distension of cavity.

10th day. Total drainage for the week—150½ ounces.

11th day. Institution of one-half strength Dakin's. Using six ounces b.i.d. followed by normal saline eight ounces b.i.d. An attempt made to fill up his cavity, but procedure stopped after the introduction of nineteen ounces of saline, because of patient's distress and paroxysms of coughing.

12th day. Re-punctured one inch anteriorly below the previous site. Drainage and irrigation re-established.

15th day. Continues to improve. Good drainage. Temperature 97, Pulse 86, Respiration 20, Hb. 73%, R. B. C. 3,600,000, W. B. C. 13,400.

22nd day. Tube changed and re-inserted between sites of two previous punctures. Condition good. Drainage scanty, averages from three to five ounces daily of thin fibrin-flaked material. Temperature 98°, Pulse 74, and Respiration 28.

25th day. Condition improved. Drainage quite scanty. Continue b.i.d. washing with one-half strength Dakin-six ounces and saline eight ounces.

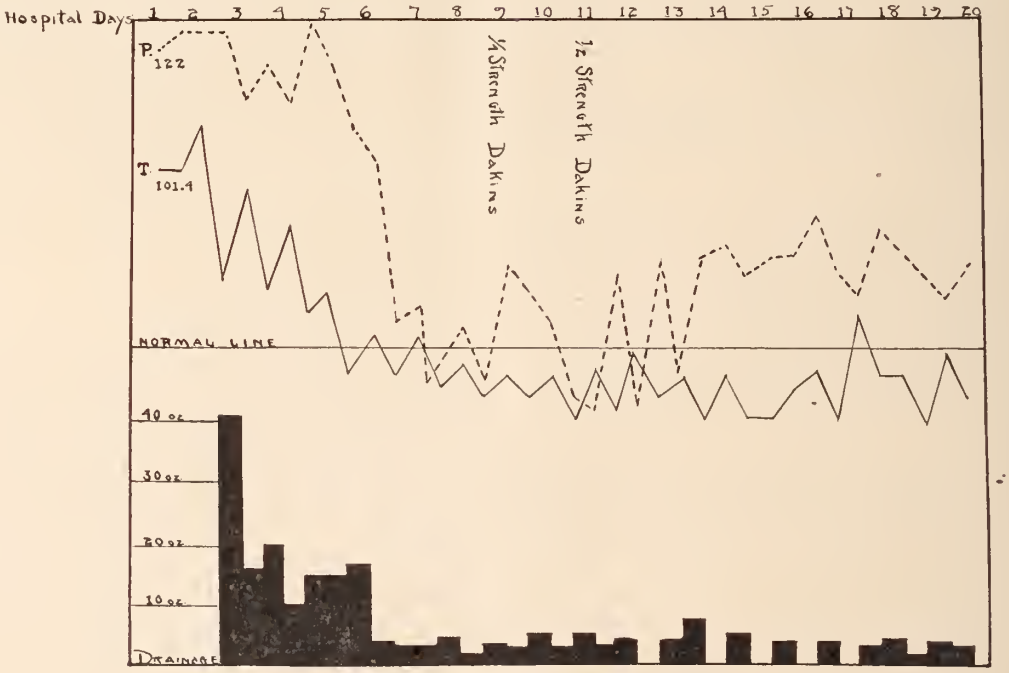
36th day. Tube removed. Puncture site dressed. Patient for observation while the drainage is temporarily discontinued.

37th day. Slight amount of drainage in dressing. Decrease in amount of non air bearing area.

39th day. General condition good. Very little cough. Temperature 98, Pulse 100, Respiration 22, Hb. 92%, R. B. C. 5,100.000, W. B. C. 9,400.

41st day. Probable extension of area of dullness and absent breath sounds with compression signs (hyperresonance and sub-crepitant râles) in bordering lung tissue.

43rd day. Relative dullness in right infrascapular region. Flatness posteriorly below VI dorsal spine with absence of breath sounds and T. F. Above this region there is B. V. breathing and a number of sub-crepitant



SCHEMATIC GRAPHIC CLINICAL CHART.

Showing the amount of drainage on successive days and the proportionate drop in pulse and temperature as the cavity was drained.

râles—more numerous after coughing. To sit up in chair daily.

46th day. Continues to improve. No change in physical signs. W. B. C. 15,100.

47th day (Sept. 1, 1922) *Physical Examination.* Very slight expansion at right base. T. F. absent below 8th rib. Impaired resonance lower right int. scapular region, flatness at 9th rib. Breath sounds are reduced on the right side in the above area. B. V. breathing just above. No water whistle phenomenon. No râles.

Stereoscopic X-ray Report. The dome of the right diaphragm is in a large part obscured by and apparently contiguous with a dense shadow extending up 2 cm. to the 9th rib, posteriorly and almost to the lateral border of the thorax. The outer third of this margin is partially differentiated from the diaphragm. Above this at the level of the 7th rib posteriorly occurs a rather dense shadow, but transmitting the shadow of the ribs and bronchial ramification. No very great increase of lower lobe trunks on this side. The remainder of the thorax is fairly clear.

50th day. T. F. is now present, except for a small area in the lower axilla below the 7th rib. Diminished resonance at the interscapular region and over scapula. Note dull below the scapular region. Flatness in lower post. Axilla on right. Breath sounds still reduced, over whole posterior right chest. Decreased expansion at right base but definite excursion is present.

51st day. Condition the same. To be out of doors daily. Temperature 98, Pulse 100, Respiration 22.

57th day. Institution of water bottle blowing exercises. Beam Divider reading: At rest, Left 4¼, Right 3¾; Expanded, Left 4, Right 5¼; Vital capacity, 9.9—2,475 c.c.

63rd day. Stereo report—From the 3rd rib downward in the right side there is marked thickening of the pleurae with extensive adhesions to the 3rd and 4th ribs. Dome of the right diaphragm is connected with numerous fine adhesions to the lower ribs—Pneumothorax, partial.

66th day. More expansion at right base than previously with return of T. F. Previous drainage sites and spinal column. Slight unproductive cough. Weight 140 pounds.

68th day. Continued increase in right basal expansion. H. B. 89%, R. B. C. 4,030,000, W. B. C. 11,200.

69th day. Marked limitation of respiratory excursion at right base with demonstrable excursion of only one-half inch in diaphragm anteriorly. Hyperresonance with a slight increase in fremitus over right upper lobe. Dullness in 7th rib posteriorly (R) to base. However T. F. and B. S. are perceptible in increasing values over Sept. 17th (63rd day).

11th week. No change. Vital capacity remains around 2,700 c.c.

84th day (October 8, 1922). Vital capacity 2,750 c.c.

86th day. Patient discharged. Instructed to continue exercises including the blowing apparatus, to keep up diet and to return later for X-ray study.

The treatment employed was directed toward his weakened condition with unexpected results in the outcome. It is useless to deduce further than this and the reasons for presentation of this case centers around its unusual course and its gratifying response to the treatment employed as a primary measure.

The nature of the case and the toxic state of the patient upon admission demanded procedures accompanied only by minimal shock. His quick response and general reaction led to the continuance of the closed drainage, and the subsequent disappearancce of physical signs of the fistula decided the permanency and the success of the measures employed.

Associated treatment was directed symptomatically,—an early reinforcement of the diet. Later exercises both for his lung capacity and respiratory muscles followed after the patient was convalescent.

In a similar case where palliative measures are to be used or where radical surgery is obviously contra-indicated the above method is deserving of consideration.

THREE CASES OF TETANUS WITH RECOVERY.*

BY WILLIAN G. KEMPER, M. D.,

MANITOWOC.

Back in the golden days of 1852, George B. Wood in his excellent work on the practice of medicine, descriptively defines tetanus as *"a disease in which the muscles are in a state of rigid lasting contractions with paroxysms of brief and painful spasm alternating with irregular intervals of more or less relaxation without coma or any essential disturbance of the mental faculties."* And under *"Prognosis"* he states, *"Traumatic tetanus is extremely fatal. Some who have seen much of the disease assert that they have scarcely known of a case of recovery."*

Dr. Osler gives a death rate of 80%.

In the statements of other authorities who practiced before antitoxin was discovered, there is an extraordinary difference in the death-rate under various forms of treatment. Thus Gowers gives a

*Read before the staff of the Holy Family Hospital, Nov. 7, 1922.

mortality at 90%; Richter in battlefield cases 88%; Poland during five years in Guy's Hospital 63%; Gurley 62%; Sormannie 44% Marcosygnari 25%; Albertoni 21%. It is stated that tetanus is not as fatal in Italy as in other countries.

On August 10, 1895, the Lancet contained a review of 35 cases treated at all stages with comparatively small doses of antitoxin, 23 of which recovered. And Gooderich in 1898 collected 153 cases treated with antitoxin with 63 recoveries. A death-rate of 68%.

Since then tetanus antitoxin has been used more and more and in constantly increasing doses.

The Tetanus Committee of the English War Office advocate the use of four prophylactic injections of 1500 units at intervals of seven days, and recommend that in the treatment of acute tetanus large doses should be employed, and cite 24000 units on the first and second day.

In one war hospital the result of antitoxin treatment was a mortality of 35%. Wheeler, another war authority, however states that up to the present time as regards the therapeutic effect of antitoxin, the evidence is still inconclusive.

Many authorities advise vigorous treatment of the wound by laying it open and cauterizing it. Some to the contrary cleanse the wound as often as necessary, but otherwise leave it undisturbed.

Most of the recent articles on the care and treatment of the victims of tetanus infection strongly emphasize the necessity of the employment of the antitoxin in massive doses, but omit to advise the equal importance of other measures.

Any case of lock-jaw of more than moderate severity, with the frequent agonizing contractions, will succumb to exhaustion in a few days irrespective of the amount of antitoxin injected unless quieting and sustaining remedies are regularly administered.

Several years ago I was called to see a man some thirty years of age who had had an arm torn off by a belt which became detached from a farm machine, and he fell into the muck of a filthy barnyard.

I amputated the arm four inches below the shoulder through apparently clean tissue. On the fourth day he complained of severe pain in his arm, and I found the bone protruding. He had short frequent paroxysms of pain and contraction confined to the muscles of the injured stump and the corresponding shoulder.

I reamputated the arm at the shoulder joint the same day. The next morning typical general tetanus had supervened. The body, curved backward with head retracted, was rigid, and torturing spasms occurred every few minutes.

These spasms interfered very much with the healing of the wound, which consequently required daily cleansing and irrigation. For this purpose I used hydrogen peroxide, which, considering that the infection is caused by an anaerobe, should be an ideal remedy.

Large hypodermics of morphine controlled the pain, but chloral hydrate in 20 grain doses were added to quiet the concurrent contractions.

During the first week the patient was given three 1000 unit intramuscular injections of antitoxin. After this the morphine and chloral alone were continued in sufficient quantities to control the pain and spasms.

He received nourishment every day, by mouth when he was able to swallow or by rectum. Laxatives or enemas were administered when required.

In six weeks the patient was up, but the rigidity remained for many more days.

A few months later, I was called to attend a boy seven years of age, who a week previously fell on the street and slightly abraded his elbow. He was having severely painful spasms every few minutes, and several times had bitten his tongue. Opisthotonos was pronounced and he was as rigid as a wooden image.

I managed to get a rubber eraser between his teeth, which by careful watching was kept there for several days. He was given 1500 units of antitoxin that day, and 1500 units on the third and fifth days, 4500 units altogether. A hypodermic injection of 1/12 gr. of morphine and 10 grains of chloral hydrate by rectum controlled the pain and the contractions. This had to be repeated about every four hours for seven days, after which chloral hydrate alone was sufficient in gradually smaller doses and longer intervals. Thus the boy was kept in a more or less somnolent condition for the first week.

He was given liquid food at frequent intervals, —by mouth when he could swallow, otherwise by rectum.

After the seventh day the rigid opisthotonos gradually relaxed, beginning with his feet and legs, and lastly at the end of three weeks it had left his back.

On July 1, 1922, a five year old boy fell on a lawn-mower, severely cutting the palm of his hand on one of the knives. Seven days later his mother thought he was getting the mumps because he could not open his mouth wider than one half an inch. I recognized a case of tetanus and the same day gave him intramuscularly 5000 units of tetanus antitoxin. The next morning he had assumed the typical tetanus posture, the body bent backward in the form of an arch, and was very rigid. Painful spasms occurred every few minutes. He received a second dose of 5000 units of antitoxin, 1/16 grain of morphine hypodermically and 5 grains of chloral hydrate by rectum. The same dose of morphine and chloral were repeated in an hour. For the next twelve days he received from 1/12 to 1/10 grains of morphine hypodermically and 10 grains of chloral hydrate per rectum every four or five hours, which effectually controlled the agonizing spasms, but nowise affected the rigid opisthotonos.

He received 30,000 units of antitoxin, all during the first week.

The wound in his hand was frequently irrigated with hydrogen peroxide.

Food was administered frequently by mouth or rectum, and laxatives or enemas were given him from time to time as the case demanded.

On the twelfth day be began to move his feet and legs and by the fourteenth was able to lie on his back. But up to the twenty-first day he was unable to sit up on account of the stiff concavity of the back.

His temperature reached 102.8 degrees on the fourth day,—then it gradually declined. At the end of the fourth week he was practically well.

The amount of antitoxin administered intramuscularly in the three cases varied considerably. The first case received 3,000 units; the second, a boy of seven, 4,500 units, which corresponds to 13,500 units in an adult; the last case 30,000 units corresponding to 110,000 units in an adult.

If the fact that they all recovered is ascribed to the antitoxin, then the necessary curative dose remains an open question. I am convinced that sufficiently large doses of morphine and chloral hydrate to effectually control the painful spasms, and the regular administration of food to sustain the patient during the ordeal are of the greatest importance.

PREVENTIVE MEDICINE

Edited by
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Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

PNEUMONIA.

BY GEO. C. RUHLAND, M. D.

Commissioner of Health, Milwaukee.
Read at Sixth Biennial Conference of Health Officers, Madison, Wis.

As a killing disease, pnuemonia heads the list of communicable diseases. So far as the records of the Milwaukee Health Department are concerned, pneumonia has always been the cause for more deaths than any other communicable disease, tuberculosis not excepted.

Since 1915 the same holds true for the state of Wisconsin. According to the mortality statistics as published by the Bureau of the Census, pneumonia has outdistanced tuberculosis as the leading cause of death for communicable disease in the registration area. Well over 100,000 people die annually from pneumonia in the United States. The death toll from influenza-pneumonia during the 1918 epidemic ran over the half million mark.

Notwithstanding this frightful toll in human life, there has remained, and still exists, a most unwarranted inactivity, if not indifference, with regard to the control of this disease.

When it is considered that deaths from pneumonia occur largely in early adult life, it must be apparent that the economic loss occasioned through this disease is considerable. Even estimating human life at the figures that were current among economists before the war—that of $5,000 a life—we would have an annual monetary loss through pneumonia of approximately $5,000,000,000. Though the war has made commonplace the use of large figures, nevertheless, the continued expenditure of this amount of money, if preventable, even if only in part, must compel the interest and action of those who are charged with the responsiblity of protecting human life.

The question naturally arises—if these are facts that have been known, why is it that public and professional interest has not been aroused on

this problem and been led to more definite action for the checking of this scourge?

There are several reasons that may serve to explain this almost anomalous situation. The most potent of these reasons undoubtedly exists in the attitude of the medical profession towards the development of pneumonia as a disease arising within the patient himself. That is to say, it was assumed (and still is by many) that the organisms causing pneumonia normally lodge on the mucuous membranes of the healthy individual, and that under influence depressing to their human host, such as chilling of the body. these organisms develop pathogenic properties and precipitate an attack of the clinically recognizable infection known as pneumonia. As a consequence of this attitude, little or no progress has been made in the control or prevention of the disease.

Fortunately, that attitude is now giving way to a newer and better understanding. Notably, the work done at the Rockefeller Institute has led to a clarification of our understanding and holds great promise, not only for the prevention and control of the spread of the disease, but also for the curative aspect in the treatment of pneumonia.

According to the researches of Rufus Cole of the Rockefeller Institute, it appears that contrary to the former concept, the organisms causing pneumonia are not normally found on the mucuous membranes of individuals, and that pneumonia arises largely from contact with acute cases. That same investigator has also shown that the pneumonia carriers are no more frequent than they are for other contagious diseases.

To this should be added the teaching of Dr. Prudden, who for years maintained that dust played an important role in the spread of pneumonia.

Here, then, we have some very important data to guide us in our control-efforts of this disease.

First of all, it seems essential that pneumonia should be made reportable, along with other communicable diseases.

Strange as it may seem, pneumonia has not been made a reportable disease, the city of Hartford, Conn., excepted, up to the time of the great influenza-pneumonia epidemic of 1918, and then only as a temporary measure. Practically none of the states, even at the present time, have such requirements.

Fortunately, and very wisely, the Wisconsin State Board of Health now also has made pneumonia and influenza reportable diseases.

Public health protection demands, however, in addition thereto, quarantine for the diseased person and his immediate contacts.

There is no longer any question that the spread of pneumonia is essentially due to the contact with the patient or those in his immediate surroundings.

It is obviously necessary, therefore, that the public be kept away from the pneumonia patient, as well as those in immediate attendance—which means quarantine.

Nothing is gained by having gossipy friends run in and out of the home of the pneumonia patient; the patient surely is not benefited any by the recounting of tactless gossip about so and so being desperately sick and not expected to live. As for the visitor and the public at large such calls furnish a definite means for the contraction and spread of the disease.

While it is not my intention to enter here, to any extent, upon a discussion of the bacteriology of pneumonia, it yet seems properly within the scope of this paper to refer, briefly, to some features in the bacteriological examinations of the pneumonia patient.

Elaborating upon the work of Neufeld, who demonstrated that different stains of pneumococci vary immunologically, Cole and his colleagues of the Rockefeller Institute, divided pneumococci into several groups (four).

Bacteriological examination of the sputum to determine the type of infection is of importance not only from a diagnostic point of view, but for the prognosis of the case as well, since it has been demonstrated that one group is responsible for at least one-third of the cases ending fatally, which means more deaths from infection with this type of pneumococcus than occur from meningitis, typhoid, diphtheria, and scarlet fever combined.

Fortunately, it appears that serum treatment can be applied with considerable success in this type of infection.

While immunization has been attempted with apparently good results, especially in some of the army camps (Upton) during the influenza-pneumonia epidemic of 1918, most observers are still very conservative with regard to the practice of immunization, granting only comparatively a short time protection from the use of such a procedure.

McCoy of U. S. P. H. S., in fact, denies practically that there is any virtue from the use of vaccines.

In a series of 160 cases of our own that were given mixed serobacterin for influenza-pneumonia, only one developed influenza-pneumonia and two developed influenza.

In another group of 93 cases who were treated with pneumococcus vaccines 1, 2 and 3, two developed influenza but not pneumonia; two developed pneumonia, one recovered and one died, the cause of death being given as influenza, which more properly, perhaps, should be called influenza-pneumonia.

While it is true that these attempts at immunization were undertaken among department employes and others who were greatly exposed to infection from pneumonia, we do not feel that these cases are sufficient to warrant any final conclusion. I am, however, still inclined to believe that the results are sufficiently encouraging to encourage further investigation along this line.

A word, finally, seems also justified with regard to other control measures, such as the wearing of masks and the suspending of sheets around the bed of the pneumonia patient.

The surrounding of the bed of the patient by sheets, preferably kept damp, seems to serve a useful purpose in lessening the danger of spreading the disease by droplet infection.

As for the use of masks to be worn by the patient, we frankly feel that this cannot be carried out satisfactorily. On the other hand, the face mask should be worn by the nurse or attendants, and the doctor.

Scrupulous cleanliness of hands of those in contact with the case, as well as cleanliness of the utensils used by the patient, and the disposal and disinfection of the discharges from nose and mouth, should be rigidly insisted upon.

Summarizing in conclusion, the points I want to make, I wish to state that I believe that for the better control, respectively, for the lowering of the morbidity and mortality from pneumonia, the following should be put into effect.

First — The prompt reporting of all cases.

Second — Quarantine.

Third — Bacteriological determination of type of pneumococcus.

Fourth — The use of sheet and mask, and scrupulous cleanliness of attendant, and disinfection of all utensils used by the patient as well as the sterilization of the discharges from nose and throat.

PUBLIC HEALTH NEWS ITEMS

Children with itch can not attend school, according to school rules of the State Board of Health.

All public health nurses, whether employed by school boards, boards of health, or county boards of supervisors, must be certified public health nurses.

Death claimed Miss Theda C. Mead, Merrill, field advisory nurse for the northern counties, after a long illness. Miss Mead was Wisconsin's first county nurse, for Lincoln county, and a pioneer in the state's public health nursing movement.

Miss Mary I. Boyes, Marinette, was appointed maternity and infant health center nurse for Jackson, Clark, Marathon and Wood counties, with headquarters at Marshfield, under provisions of the Sheppard-Towner law.

There is no law in this state pertaining to hospital dietitians. Young women are given training at the university to serve in such capacities, but the standard of requirements for staff work in hospitals is left to hospital managements.

Ten cases of deformity and physical defects in newborn children were reported to the state board of control, as provided by law. Two were goiter cases.

A mother writing for a certificate of birth of her child (found not on record), was informed that the physician's fee may legally be withheld until he files the birth certificate.

Miss Adda Eldredge, director of the Bureau of Nursing Education, has accepted membership, as president of the American Nurses' Association, on the women's committee of the national committee of the United States for the restoration of the Louvain library in France. This recognition came in a telegram from Nicholas Murray Butler, chairman of the committee.

The Detroit Department of Health in its Weekly Health Review states that one way of combating

the ravages of pneumonia during the cold season is to fortify the body against temperature changes. This can be done by living in cool rooms, by cool morning showers and by daily walking exercise in the open. We have developed a pernicious habit of living in atmospheres of 75 to 80 instead of 65 to 70. It has been proven experimentally that there is 15% less physical work at a temperature of 75 than at 68 degrees.

The winter's federal legislative program of the National League of Women Voters has as its right-of-way measure, to which all other measures must give place, the House and Senate Bill which provides for the carrying on by the Department of Justice of the work of the Inter-Departmental Social Hygiene Board. This measure will receive as much active support from the League as was given the maternity and infancy bill and the Cable Bill for the independent citizenship of married women, each of which in its turn was the League's primary federal legislative measure. It is significant in choosing a right-of-way measure to work for that the League should have fixed upon a social hygiene bill. The choice is proof of the interest women's organizations are taking in social hygiene work.

Venereal Disease Reports. We have at hand a report of the Department of Public Health of Victoria, Australia. The report is a comprehensive study of their experiences conducted along similar lines to the work now carried on in the United States. Their conclusions are:

1. Provision of facilities for treatment seems to be the best method of securing results. Doubtless a greater proportion of infected persons would continue treatment until cured if arrangements could be made with private practitioners for prolonged attendance. A large number of infected persons can not afford to pay the fees of private practitioners over an extended period of time and can not be induced to attend a public clinic regularly. It is an obvious truth that anything obtained for nothing is not valued. This applies to free treatment of venereal disease. Treatment is more appreciated if a fee—even a small fee—is charged. Some patients are prepared to pay moderate fees and especially so if there is some degree of privacy.

2. Discreet educational propaganda serves a very useful purpose in creating a knowledge of the dangers of venereal diseases and thereby diminishing its prevalence, but it must, however, be admitted that a complete knowledge of the consequences has no more deterrent effect in some cases than oral advice to a moth on the dangers of a candle flame.

3. Many persons discontinue attendance upon clinics when acute symptoms are subsided. Approximately one-half of the defaulters reattend it upon notification. This is a rough index of the value of compulsory notification.

Three Years of Swedish Anti-Venereal Disease Legislation. The number of cases of venereal disease has been reduced by 60% in Stockholm in the last three years and 40% for the whole of Sweden; in Copenhagen and Christiana the reduction in the number of cases has been only 10%. Dr. Karl Marcus remarks that the legislation is not altogether responsible for the drop, as during those years of financial depression there is always a decrease in venereal diseases. Hygienisk Revy.

New German Venereal Disease Law. This law provides for continuity of treatment and makes the offender who propagates venereal disease, knowing or suspecting that he or she is in an infectious state, liable to three years' imprisonment. Treatment is to be free for those who are unable to pay and the patients are obliged to submit to treatment for as long as the medical authorities consider necessary.

PRODUCTION OF ARTERIOSCLEROSIS IN RABBITS BY DIETS RICH IN ANIMAL PROTEINS.

By means of diets containing 27 and 36 per cent of protein derived chiefly from beef, L. H. Newburgh and Sarah Clarkson, Ann Arbor, Mich. (*Journal A. M. A.*, Sept. 30, 1922), have produced true atherosclerosis in the rabbit. The time of appearance and the extent of the lesion were roughly proportional to the amount of protein in the diet and the duration of the feeding.

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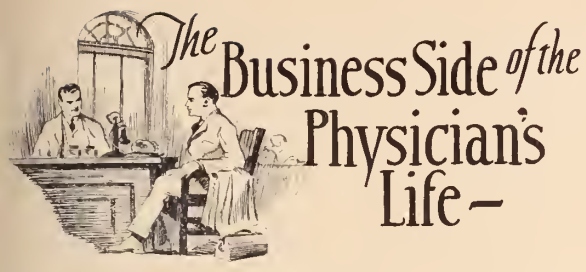

Reports that have been coming in during the last month or so from widely scattered communities indicate a decided improvement in collections of accounts due physicians. The physician's account being historically and chronically placed at the bottom of the average family's pile of unpaid bills, it is one of the real indexes of returning business "normalcy" that physicians are finding their collections showing a return to consciousness.

Right here in the family circles where the alien eye is supposed never to wander, let us admit that physician's finances have considerably improved since those days that we now refer to as "befo' the wah." The rise in all commodities and living costs forced the physician to stiffen his back bone and demand a decent return for his services. When more physicians have seen the light and learned the wisdom of following up their accounts closer and more promptly, the financial millenium will have arrived.

There was something fine and soul stirring in the picture of the old physician going his daily rounds through winter's snow and summer's heat in dead of night and throughout the day, still in the harness and going his cheerful rounds at an age when the village plumber had retired to go fishing with the retired groceryman. But the facts were in all probability that he kept going because he had to, and he probably looked at those two old chronies on their way to the fishing hole with the wish that he could go too. Most men love their work, and more truly is this so of the professional man, but no man loves his work so well that he doesn't look forward to the time when he can be free to view it independently.

There is an interesting story in the October American Magazine about Pirie McDonald, one of America's famous photographers. Therein he tells that when his income and finances had reached the point where he thought he could do so, he stopped photographing children, because he didn't like that sort of work. Later, when his finances permitted, he took the next step, and dropped the photographing of women from the list of things he would do. Then he was down to the thing he wanted to do, the photographing of men, and doing the thing he really liked, he has built up a reputation for his work that is international.

I wonder how many men, reading that article, put it aside with a feeling of envy in their hearts and wished that they, too, could do the things they really want to do. Men do their finest work when they are doing things they like. Pirie McDonald knew what he wanted to do, and he set about making his dream come true. Here and there in the medical profession we see men doing precisely the same thing, turning to the branch of medicine or surgery that they like.

But before a man can take a step of this kind he must have prepared for it by placing himself in a position of either complete or partial financial independence. The man that feels the urge to do something different, and feels it strong enough, will accomplish his purpose.

Every man, no matter what his purpose in life, owes it to himself and his family to get himself onto an independent basis towards his work during the years when the returns from his work are greatest. These are the years, incidentally, when his enjoyment of his work is keenest. Because this is true, many men perhaps discount the need for feathering their financial future, feeling that they will always have the same zest and willingness to keep on the job, and this being so, present day sacrifices to safeguard future needs are wasted. Perhaps—but this takes no account of physical disabilities and the inclination of old age to rest from its labors.

Babson says, "Every man should enjoy two incomes—one from his work and one from his savings. Unfortunately our educational system emphasizes the former and completely ignores the latter. We spend eight, twelve, even sixteen years fitting ourselves to make money, and not so much as an hour learning to make that money work for us. We work hard—and earn a good income—and either let our surplus lie at small interest or 'invest' it in promotions and speculations only to lose both principal and possible future income."

With "better times" in a business sense upon us, and with all indications pointing to steadily improving collections, we believe that the time is op-

portune for physicians who have not done so to begin a definite program of building up an investment fund. It simply means the investing of surplus present income. It does not mean speculating, for speculating and investing are birds of a different breed.

The American public is fairly well educated up to the need of providing life insurance against the certainty of death. The process of building up a fund which will produce a sufficient living income against the uncertainties of life or the desire to be independent, ought to be as well understood, and is steadily gaining ground.

In building up an income fund, two things should be kept well to the fore. The first principle in investment is this: "Safety of principal is of first importance, interest rate is secondary." The second axiom is: "Diversify your investments."

An investment fund is built like a house, from the ground up. The man who builds a house starts with the foundation, and the foundation is the strongest part of the house. So with the investment fund. The first investment should be one with the highest degree of security and marketability. Forget the interest return. You need here something that is tantamount to an emergency fund, something that you can sell immediately if needed, and something that is not likely to fluctuate much in value. Liberty bonds are an example of this type of investment.

Then your next step upward into the framework of your investment building will be into securities offering almost as great security and a greater interest rate. In this group are municipal bonds and utilities. As compared with a government bond, a municipal bond or the security of a great public utility offer less security, but the difference is more theoretical than actual, for securities of this type are uniformly regarded as being absolutely sound, and they offer a higher interest rate. Many astute business men are entirely content to start and stop their investment building program on this type of security, being willing to pass up the industrial securities offering a higher rate of interest. In defense of this viewpoint, utilities offer a rate of interest that is highly satisfactory, running from 5½ to 6% and offer ready marketability.

The industrial security, however, offers an extra margin of interest return and the industrial bond that you purchase from any high grade bond house is proportionately well secured. These factors prompt many investors to shingle the roof of their investment building with a percentage of high grade industrials.

Mixed in with these investments many men like to work in a few farm mortgages. This type of security is getting harder to obtain because of the increasing tendency on the part of country banks to exchange their mortgages in bulk for notes under the provisions of the Federal Farm Loan act. Farm mortgages also offer the added objection that there is considerable extra cost in buying and selling, they are not always readily marketable, and, as has been the case during the last few years, the mortgagee cannot always meet the interest.

Diversity of investment should always be kept well in mind. No matter how high grade the security, it is not policy to put all your eggs in one basket. Give yourself a good assortment, for in so doing you reduce the possibility of loss and increase the ease of marketability.

CARE OF THE BLADDER IN PREGNANCY, LABOR AND THE PUERPERIUM.

If, as has been stated, pathogenic bacteria are present in the bladders of more than 50 per cent of women in labor, the normal changes of pregnancy in the bladder, plus the injuries of labor, in the opinion of H. W. Shutter, Milwaukee (*Journal A. M. A.*, Aug. 5, 1922), provide all the factors necessary for the production of infection. What, then, is to be the course in preventing and combating puerperal retention, ischuria and cystitis? The bladder should be emptied before the woman leaves the delivery table. As soon after labor as is reasonable, she should be urged to void. If necessary, she may be propped up in bed to accomplish this. Overdistention should not be allowed to develop. If the woman cannot be made to void, and in one's opinion the bladder is full, she should be catheterized. The care of the bladder should not be left to an inexperienced attendant. Strychnin, ergot and pituitary extract are sometimes of value in stimulating the bladder muscles, especially when augmented by the increased intra-abdominal pressure of the erect posture. A hot enema, the electric current and suggestion are often effective. Hexamethylenamin, in combination with acid sodium phosphate, should be given by mouth in most cases in which catheterization has been necessary. After each catheterization, a dram of 20 per cent argyrol should be left in the bladder. If pus appears in a urine previously clean, daily irrigations of warm sterile boric acid solution usually clear the condition rapidly.

THE LIMITATIONS OF INTRAVENOUS MEDICATION.

The practice of intravenous medication has come to the front in an ever-increasing extent; and, though by no means a new procedure, its application to the treatment of disease has assumed such proportions that Carl Voegtlin, Washington, D. C. (*Journal A. M. A.*, Aug. 5, 1922), regards it as both timely and important to consider the real merits and limitations of this form of therapy. The discovery of intravenous medication is accredited to Christopher Wren, a professor of astronomy at Oxford University, who, in 1656, made experiments on dogs, and showed that medicines could be introduced directly into the veins without disastrous effect. A year later (1657), the first intravenous injection was made on man, and this was followed by numerous attempts to treat diseases by this method with a great variety of drugs. The modern application of intravenous medication began with Baccelli's introduction of the intravenous injection of quinin for the treatment of malaria (1890). This was soon followed by Credé's treatment of septicemia by means of intravenous injection of colloidal metals (1901). The reports of this period, as of the former, showed, however, that intravenous medication is not without danger, and consequently it did not come into vogue. About twenty years later (1910), the discovery and use of arsphenamin in the treatment of syphilis revolutionized medical practice in this respect. The intravenous use of arsphenamin and its substitutes has done more than any other single factor to popularize intravenous treatment. The demonstration of the relative harmlessness of intravenous arsphenamin injections has prompted physicians to apply this method within recent years to other drugs and to other diseases, principally on the assumption that intravenous injection is of necessity followed by a more powerful therapeutic effect than is administration of the drug through other channels. The fact was forgotten that the intravenous administration of arsphenamin was simply an attempt to avoid pain and local reaction, and that it was not introduced in order to increase the therapeutic effect. With regard to the efficacy of intravenous quinin injections, clinical observers agree that the action in extreme cases is more prompt than when the drug is given by mouth, and the patient's life may thus be saved. However, as soon as the critical condition has passed, quinin should be given by mouth for the reason that the available evidence shows that malaria is not more readily cured by intravenous medication; and this is supported by some recent findings which indicate that about 90 per cent of the quinin injected intravenously in man disappears from the blood within one minute, and is stored in the tissues. Another example of the superior therapeutic effect of intravenous medication is the administration of salt solutions in severe hemorrhage. Voegtlin states that, what has been said concerning the superior value of intravenous medication with regard to the therapeutic effect is sufficient to raise a question as to the unscientific claims made by certain commercial interests who advertise a great variety of drugs put up in solution for intravenous use. Most of these products have not been included in New and Non-official Remedies by the Council on Pharmacy and Chemistry, because they are sold under misleading claims regarding their alleged safety and efficiency. It appears that a considerable amount of evidence has accumulated in recent years which indicates that the nicely adjusted equilibriums of the blood and those of the easily accessible tissues may be temporarily upset by intravenous medication; and this disturbance may give rise to undesirable symptoms and even cause death. In many cases, untoward reactions can be avoided by introducing the drug solution at a slow rate, which permits the protective mechanism of the blood and tissues to operate efficiently; whereas, if the injection rate is too fast, this mechanism breaks down, and symptoms make their appearance as visible results of the disturbance of the chemical or physical equilibrium of the blood and tissues. Under certain pathologic conditions, this equilibrium is more easily disturbed. It is a common practice to test kidney function before and during a course of arsphenamin or its substitutes, for obvious reasons. In special cases, previous treatment with a drug which produces a cumulative effect has also to be taken into account. Having seen that intravenous medication is not necessarily superior therapeutically to other modes of drug administration, and having pointed out the numerous possibilities for injury to the patient inherent in this method, Voegtlin states that we should strive to simplify the technic of the administration of drugs wherever possible, in order to avoid the necessity of the injection of the medicament directly into the circulation. The subcutaneous injection of morphin and similar drugs is an exceedingly simple procedure, which very often is left to the attending nurse. Would it not be a great step forward if such drugs as arsphenamin or its substitutes could be given subcutaneously? Voegtlin has studied such a preparation experimentally, and so far it meets all the essential requirements. It is prepared from arsphenamin, formaldehyde and sodium bisulphite; its aqueous solutions are very stable and do not increase in toxicity on standing for twenty-four hours or on vigorous shaking. Its parasiticidal effect is extremely constant, and it does not cause any local reactions if injected hypodermatically. The chemotherapeutic index or, in other words, the ratio between the curative and the maximum tolerated dose is as good as in the case of arsphenamin. The drug is now being tested clinically. Voegtlin urges that every effort should be made to render the administration of such drugs as simple and safe as possible, without, however, sacrificing their therapeutic efficiency. Intravenous medication will never serve this purpose, and will always have a more or less restricted field of usefulness.

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Winnebago	F. G. Connell, Oshkosh	T. D. Smith, Neenah
Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

CRAWFORD COUNTY

Crawford County Medical Society held their annual meeting Nov. 9th at "Hotel Turk", Wauzeka, Wisconsin, with a full membership attendance. After a dinner and smoker, a business meeting was held and the following officers were elected for 1923: Dr. A. J. McDowell, Soldiers' Grove, President; Dr. Chas. A. Armstrong, Prairie du Chien, Vice President; Dr. T. E. Farrell, Seneca, Secretary-Treasurer.

DANE COUNTY

The annual business meeting of the Dane County Medical Society was held at the Park Hotel, Madison, on Wednesday evening, December 13, at 6:00 P. M. Following a five course dinner a business meeting was held, officers were elected and there was a general discussion of the business side of the profession.

An open meeting of the Dane County Medical Society was held November 14, at Madison. A general discussion of the prevention of cancer was held and two reels of film on the symptoms and signs of cancer were shown. Dr. C. A. Harper of the state board of health and Dr. E. V. Brumbaugh of the city health department were the speakers of the meeting.

GRANT COUNTY

A meeting of Grant County Medical Society was held at Platteville, Wednesday evening, October 25, in the Mining School building. The time was given over to Dr. T. L. Harrington of Milwaukee, who was conducting chest clinics in Grant County at that time. He gave a very interesting and instructive talk on "The Early Diagnosis of Tuberculosis" and presented a case.

JEFFERSON COUNTY.

The Jefferson County Medical Society held a meeting at the Sanatorium November 30. A very interesting and instructive program was given. Dr. Malcolm Rogers gave a talk accompanied by stereopticon slides showing cardio-gram charts of various cases of heart trouble. Dinner was served the doctors at the Sanatorium.

LANGLADE COUNTY

The annual meeting of the Langlade County Medical society was held at the Hotel Butterfield, Antigo, October 31, and a memorable occasion it was in the history of the organization. Landlord Marson, of the Butterfield, evidently gave his personal attention to the six course dinner provided for the occasion as it was the subject of much praise and commendation from the banquetters.

Following the dinner, officers were elected, a smoker held, and general discussion on such subjects as raising the standard of education for those entering the medical profession.

MILWAUKEE ACADEMY OF MEDICINE

C. A. Evans, president of the Milwaukee Academy of Medicine, delivered an address on "A Review of Minutes of Milwaukee Medical Societies From 1837 to 1896," at a meeting of the academy in the Health Service building, 558 Jefferson street, Milwaukee, Nov. 28.

The following program was given at the meeting of the Milwaukee Academy of Medicine, November 14th:

1. Presentation of a Case of Incipient Tuberculosis, Dr. Marian Lewis.
2. Two Unusual Urological Cases: (a) Cystic Tumor of the Kidney; (b) Diverticulum of the Bladder, Dr. Fred Stratton.
3. A Case of Tumor of the Caecum, Dr. H. T. Kristjanson.
4. A Case of Cystic Degeneration of the Prostate, Dr. E. A. Fletcher.
5. A Case of Carcinoma of the Esophagus with Perforation, Dr. F. B. McMahon.
6. A Case of Carcinoma of the Mediastinum, Dr. H. B. Hitz.
7. Volunteers.

Program Tuesday, December 12th.

1. Presentation of Clinical Cases and Pathological Specimens.
2. The Problem of the Visiting Nurse, Miss Erna Kowalke, Supt. Visiting Nurses.
3. A Case of Acromegaly, Dr. R. P. Sproul.
4. The Care of the Bladder in Pregnancy, Labor and Puerperium, Dr. H. W. Shutter.

MILWAUKEE COUNTY MEDICAL

Technical lectures with lantern slide demonstrations occupied a meeting of the Medical society of Milwaukee county at the public museum, Nov. 10. Subjects were: "Fractures of the Pelvis," Dr. S. H. Wetzler; "Injuries of the Bladder and Urethra in Fractures of the Pelvis," Dr. Walter K. Gray; "Fractures of the Forearm," Dr. Edward Quick.

Dr. F. A. Stratton was elected president and Dr. M. L. Henderson, vice president of the Milwaukee County Medical society at the meeting and dinner held at the Republican house, Milwaukee.

Dr. P. H. McGovern, retiring president, urged upon the members the necessity for a greater degree of loyalty and better attendance.

"There is no such a thing as a standstill in the medical profession," said Dr. McGovern. "If we are to hold our place as a profession we must deliver a greater degree of service than ever. Never before has the public swung so readily to all forms of quackery and 'quick cures.'"

The report of the legislative committee, presented by Dr. J. J. Seelman, chairman, recommended legislation to place the control of the health department in cities of the first class in the hands of a health board which would appoint the commissioner. It also recommended another effort to bring about the passage of a medical practice act, fixing standards to which all practitioners of whatever class or cult must measure up, and urged the introduction and passage of legislation to prohibit any person from accepting or receiving free medical attention from the state, county or city who is shown to be able to pay for it.

MILWAUKEE NEURO-PSYCHIATRIC

On November 23, Dr. W. F. Wegge, President, entertained the members of the Milwaukee Neuro-Psychiatric Society at dinner at the Hotel Astor, followed by a talk on his trip abroad. The program was as follows:

Remarks on Visits to Neurological Clinics at German Hospitals, Dr. W. F. Wegge.

(a) Interest Shown in the Amyostatic Symptom Complex.

(b) The Treatment of Paresis by Malarial Injection.

(c) The Pneumo-encephalogram.

(d) The Treatment of Cerebral Syphilis with Arsenical Preparations.

(e) Some Observations on Multiple Sclerosis and Other Matters of Interest.

MILWAUKEE OTO-OPHTHALMIC SOCIETY

"Report of a Case of Cerebellar Abcess Following Fracture," by Dr. W. H. Halsey, and "Frontal-Ethmoid Diseases," by Dr. T. L. Tolan, were addresses on a program of the Milwaukee Oto-Opthalmic society at a dinner meeting in the University club, November 21.

NINTH COUNCILOR DISTRICT.

The winter meeting of the Ninth Councilor District Medical Society was held in Marshfield at St. Joseph's hospital, November 9. The meeting included interesting talks by surgeons from Minneapolis, Chicago and Milwaukee, and demonstrations of clinical cases by the local physicians. The meeting opened with a talk and demonstration by Dr. J. B. Vedder, followed by Doctors Turgasen, Copps, Mason, Vedder, Sexton, Hipke and Potter with various subjects. After the afternoon session a banquet was served at the hospital and the meeting was continued at eight o'clock with the following program:

"Modern Methods in the Treatment of Fractured Jaw," Dr. M. N. Federspiel, Milwaukee.

"The Value of Blood Chemistry in Clinical Diagnosis," Dr. Burten C. Ford, Minneapolis.

"Some Problems in Kidney and Urethral Stone Surgery," Dr. Herman L. Kretschmer, Chicago.

"Myocarditis," Dr. H. H. Milbee, Marshfield.

RACINE COUNTY

The regular meeting of the Racine County Medical Society for October 26th, was held in the Class Room at St. Mary's Hospital at 4. p. m.

Dr. Jos. C. Bach, Milwaukee, addressed the meeting upon the subject of "The Methods of Blood Analysis and Interpretation of Results," and Maj. F. D. Applin of the 101st Division, gave a talk in behalf of the Federal Reserve Army.

ROCK COUNTY

Cares of the consultation room were laid aside by Rock County medical men November 28 on the occasion of the annual banquet and frolic of the Rock county Medical society. The affair was probably the most successful yet arranged by the medics. One hundred and forty doctors and doctors' wives were present. The banquet was at the county farm north of Janesville. Superintendent Archie Cullen was the directing genius of the banquet and acted as host supreme.

Prior to the banquet Dr. Peter Bassoe, Chicago, conducted a neurological clinic attended by many of the physicians.

The banquet was at 7 o'clock. The Fairbanks, Morse orchestra furnished music during the meal and played for dancing that lasted until 11 o'clock. Featuring the dancing were a number of old-fashioned square dances in which white-haired medicos and their ladies made the hit of the evening.

The annual event was arranged by Dr. F. W. Leeson and Dr. E. B. Brown, of Beloit, president and secretary of the county society, and by Dr. T. J. Snodgrass, Janesville, vice-president. Drs. Woll and Cook, of Janesville assisted. A large delegation of Beloit physicians and their wives were present.

TREMPEALEAU-JACKSON-BUFFALO COUNTY

The Trempealeau-Jackson-Buffalo County Medical Society held its annual meeting at Whitehall, Oct. 25. The meeting was held in the Co. A Armory, after which a banquet was served.

Talks were given by Doctors Jegi and Powell of Galesville, Stack of Independence and Belitz of Cochrane. The following officers were elected for the ensuing year:

President—Dr. Powell, Galesville.

Vice-President—Dr. Koch, Taylor.

Secretary—Dr. R. L. MacCornack, Whitehall.

WASHINGTON-OZAUKEE

Physicians of Washington and Ozaukee counties held a meeting in West Bend recently and formed what is to be known as the Washington-Ozaukee County Medical society. The society will be officered by the following: President, Dr. W. H. Drissen, Port Washington; vice president, Dr. H. M. Lynch, Allenton; secretary-treasurer, Dr. A. H. Heidner, West Bend; delegate, Dr. G. F. Savage, Port Washington; alternate, Dr. H. Albers.

Allenton; censors, Drs. C. Balkwill, Grafton, A. J. Schloemer, Jackson, and W. J. Wehle, West Bend. It was decided to have four meetings a year—in May, July, September and November.

WEST WISCONSIN DISTRICT

Speakers of uncommon excellence and repute were present at the nineteenth annual meeting of the West Wisconsin district medical society, which met at Eau Claire, November 2.

Dr. D. N. Eisendrath, Dr. Dean Lewis and Dr. P. V. Magnussen, all of Chicago, Dr. L. G. Rowntree of the Mayo Clinic, Rochester, and Dr. E. E. Tupper of Eau Claire, were on the program.

Dr. C. Midelfart was chosen president of the society to succeed Dr. R. F. Werner, while Dr. R. E. Mitchell becomes secretary in place of Dr. J. F. Robinson.

An excellent banquet was served one hundred twenty-five doctors in the prettily decorated ball room of the Eau Claire hotel by waitresses dressed as Red Cross nurses. The young son of Manager Bouschell appeared in the midst of the scientific assemblage as a "Medicine Man" in all the pomp of full Indian regalia. Music by an orchestra and brief toasts enlivened the meal.

The convention closed with Walter Whiteside's play "The Hindu" at The Grand, at which the visiting doctors were guests of the local medical society.

NEWS ITEMS AND PERSONALS

Dr. C. C. Gratiot of Shullsburg, "The Grand Old Man and Dean among Doctors of Southwestern Wisconsin," has been incapacitated for work for some time. At present he is able to be around the house but cannot follow the grind of work he has been accustomed to.

Dr. Paul S. Epperson has opened a laboratory in the Wells building, Milwaukee. His practice is limited to Roentgenology.

Dr. John E. Walsh, who has been practicing in Peshtigo for the past three years has left that city and will locate in Richland Center in the near future.

Dr. T. J. Metcalf, Merrill, has moved to Madison where he expects to locate.

Dr. Walter H. Sheldon recently underwent a serious operation at St. Mary's hospital, Madison.

At a meeting of the Welfare Club at Mt. Washington Sanatorium, Eau Claire, November 7, it was determined to install a complete radio receiving set as soon as the necessary funds can be secured. One of the patients, an ex-service man and former employee of the Wisconsin Telephone company, has at his own expense constructed a small set, which is now in use and giving satisfactory results. Music, lectures, reports, etc., from Minneapolis, Davenport, Kansas City, St. Louis, and other broadcasting stations are being heard almost every evening.

Dr. G. R. Duer, Stoughton, has disposed of his practice to Dr. Archie Horn, and expects to move to a larger city where he will limit his practice to surgery.

Building of a new Jackson clinic, Madison, to cost in the neighborhood of $250,000, is being planned. Work on a temporary connection unit, uniting the present clinic building on N. Hamilton St. to the former German Evangelical church is under way.

Dr. Norton J. Eversoll who has been located at the Dr. Wilson Cunningham hospital, Platteville, for 15 months, has located in Milwaukee, where he is resident surgeon at Columbia hospital.

The Social Medical club of Oshkosh held its first meeting of the season November 8, at 8 o'clock at the Elks' club. Dr. John F. Schneider and Dr. W. P. Wheeler each read papers. The club is the successor of the Oshkosh Medical club which disintegrated two or three years ago. Last year it was composed of about twenty physicians and was entertained by individual members as hosts.

Miss Theda Mead, Merrill, one of the pioneer county nurses of Wisconsin and a prominent figure in the development of public health nursing service throughout the middle west, died at Rochester, Minn., November 14.

Municipal ordinances conferring upon boards of health authority to enforce vaccination as a prevention against smallpox and other contagious diseases are valid it was held by the United States supreme court in a decision in the case of a citizen of San Antonio, Texas, who brought action on the grounds that while state legislatures might enact such measures, municipalities have no authority.

The annual meeting of the supreme council of the Wisconsin Guild of Catholic Nurses was held Dec. 20 at Milwaukee. Miss Anna Schemmer and Miss Leah Stimson- active officers of the guild, having charge of the arrangements.

Sheboygan county may reconsider its action of a year ago, when it rejected the plan of joining Manitowoc and Calumet counties in building a tri-county tuberculosis sanatorium, which would mean simply erecting a large addition to the Manitowoc county institution at Whitelaw. This results from a report of the free chest clinic held at Sheboygan, which showed 65 of 343 persons examined to be affected by tuberculosis. The Whitelaw hospital for tuberculosis patients provides accommodations for about forty patients. An addition has already been built on to the original unit. The need of more room is recognized and it is with that in mind that the suggestion of a tri-county sanatorium was suggested.

Milwaukee may be selected for the 1923 convention of the American Hospital association, according to Frank Cleveland, convention secretary of the Association of Commerce. A. S. Bacon, president, and A. R. Warner, vice president of the association, visited and inspected

Milwaukee and both were favorably impressed with Milwaukee's possibilities as a convention city.

Dr. Henry B. Hitz has been named as the new chief of staff for the Milwaukee Children's Free hospital, Milwaukee. Dr. Hitz succeeds Dr. Clarence A. Baer, who has been the chief of staff for many years.

From a list of eligible physicians, prepared by the county civil service commission, Dr. Harry Sargeant, who for six months has been acting head of the Milwaukee County hospital, was selected superintendent. He succeeds Dr. F. N. Schulz who resigned six months ago. Dr. Sargeant had also acted as superintendent during the year Dr. Schulz was on leave of absence.

The Hartford General hospital, which has been closed for the past three months, was reopened to the public Nov. 29, as the result of the splendid endorsement given the hospital drive, which was held November 25.

The eleventh of the series of Post Graduate Medical instruction lectures and meetings was held at Ripon, Nov. 17. Dr. F. J. Gaenslen, attending orthopaedic surgeon, Milwaukee Childrens' Hospital and Milwaukee County Hospital, spoke on "Tuberculosis of Bones and Joints." The meeting was attended by about twenty physicians from towns and cities in Green Lake, Waushara, Fond du Lac and Marquette counties. The twelfth and last meeting was held in Berlin at the library on December 15th. Dr. W. D. Stovall, associate professor of hygiene, University of Wisconsin, and director of the state laboratory of hygiene, gave the address. His subject was "Laboratory Technique Applicable to Office Diagnosis." This series of meetings was under the supervision of the University Extension Division, University of Wisconsin, Department of Postgraduate Medical Instruction. The system calls for a clinical meeting at two o'clock in the afternoon and a lecture at eight in the evening. Clinical cases are brought before the assembly of doctors.

Marinette county may either have within its borders a new tuberculosis sanatorium or be interested in a similar institution in Oconto county. Oconto and Shawano county boards have appointed a committee to act in conjunction with the Marinette county committee and it may be decided to build with these two counties. In that case a central location or near Oconto county might be selected. There was some sentiment in favor of uniting with Forest and Florence counties but the latter counties have not as yet considered the matter and union with them would mean that Marinette would have to stand a larger share of the cost. The cost of a forty-room sanitorium is estimated at about $60,000.

Definite plans were made for the building of a Masonic general hospital in Wisconsin, at the banquet of the Sincerity class, Wisconsin consistory, at the Scottish Rite cathedral, Milwaukee. J. W. Peterson was appointed chairman of a special committee to make a preliminary survey for the project.

Europe seems like a vast military camp to the American traveler, according to Dr. Chester M. Echols, 803 Summit Ave., who returned to Milwaukee November 22 from a four-months' tour of 12 European countries.

Administering to the sick of a community for an aggregate of 111 years is the remarkable record of three generations of physicians in the J. G. Meachem family of Racine. Sixty years ago, there came to Racine Dr. John Goldesbrough Meachem with his wife and son, John Goldesbrough Meachem, jr., who six years later entered into the medical profession with his father and has practiced continuously for 56 years. His son, Dr. John Goldesbrough Meachem III, is also a prominent physician there and followed in his grandfather's and father's footsteps as specializing in surgery.

Acting upon the request of the board of trustees of Emergency Hospital, Milwaukee, the city service commission agreed to the appointment of Miss Minnie Getts as permanent superintendent of that hospital. Miss Getts has been acting superintendent for several months.

Miss Millie Jacobson of Jewell, Ia., has been chosen to succeed Miss Amalia Olson as superintendent of Luther hospital, Eau Claire. She assumed her duties Dec. 15. Miss Jacobson is a graduate of the nurses' training school of Augustana Hospital, Chicago, and is a registered nurse in the state of Illinois.

Charged with manslaughter, Dr. Isaac O. Newell, 412 National avenue, Milwaukee, was arrested by Paul G. Dorsch, special investigator for the district attorney's office. The warrant was issued by the district attorney's office on recommendation of the coroner, following an inquest into the death of Mrs. Rose Zastrow, 38 years old, the mother of seven children. At the inquest, Dr. Daniel Hopkinson testified that the death of Mrs. Zastrow was undoubtedly due to a criminal operation alleged to have been performed by Dr. Newell.

Drs. W. F. Lorenz and Wm. Middleton began Nov. 20, the survey recently ordered by Gov. Blaine to determine the mental and physical condition of 300 former service men now in Wisconsin penal institutions.

At the regular monthly meeting of St. Catherine Hospital staff, Kenosha, November 9, it was decided to hold an annual clinic at the hospital every spring. The clinic will be called "St. Catherine's Memorial Hospital Clinic." The first one is to be held at the Hospital next May and is to be conducted by the teaching staff and the program committee. Men of national reputation will be there to give work along special lines. Local men doing special work will present cases before the clinic. The clinic will last two or three days, comprising the varied important branches of medicine, surgery and dentistry, including the social side of such a meeting.

Plans for the life membership campaign of the Wisconsin Catholic Guild of Nurses was completed when the supreme council of the guild met in the Marquette university parlors November 21. Ways and means for pur-

chasing the new guild home were discussed. The Rev. C. B. Moulinier, S. J., spoke, and twenty-five nurses were admitted to membership. The sum of $3,500 was pledged.

The Milwaukee Physicians' association has appointed a committee to act in advisory capacity in connection with the committee of the South Side Advancement association which is working for the erection of a hospital on the south side. The physicians' committee consists of Dr. Henry Gramling, Dr. Hugo P. Siekert and Dr. E. L. Baum.

Dr. Chauncey D. Beebe of Sparta has accepted a position as Assistant Physician with the Milwaukee Sanitarium, Wauwatosa.

MARRIAGES.

Miss Lucie Duchemin, Paris, to Dr. Walter C. Hauser, Milwaukee.

Miss Louise M. Knutson, Marinette, to Dr. H. C. Erickson, Viroqua.

Miss Ruby E. Rosenberg, Milwaukee, to Dr. William J. McKillip, Milwaukee.

DEATHS.

Dr. Dempster W. Woodworth of Ellsworth, Wis., died in St. Luke's Hospital, St. Paul, on November 29th. Dr. Woodworth was born at Windham, Ohio, on May 25th, 1846. He was graduated from Western Reserve University in 1868 and immediately located at Ellsworth, Wisconsin, where he practiced for fifty-four years, being in active service up to a few weeks before his death.

The death of Dr. Douglas L. Sauerhering, Wausau, occurred following an illness of two weeks with pneumonia. He had served as health commissioner for the City of Wausau for many years. He was a graduate of Northwestern University.

Dr. I. D. Steffen, native of Hortonville and one of the most prominent men in Antigo, died in that city Wednesday evening, Nov. 22, from acute diabetes. He collapsed in the morning and did not regain consciousness before death. Dr. Steffen had been in ill health about two weeks and the day before he died an examination revealed acute diabetes. He was preparing to seek expert treatment when he was stricken. He was a member of the Langlade County Medical Association, the Wisconsin State Medical Society and the American Medical Association.

While on a hunting trip in the Barrens near Spider, Dr. O. Braun of Ashland dropped dead from heart failure. Dr. Braun and his brother went out in an automobile to hunt deer, and arriving at their destination went in opposite directions, planning to meet in the evening. When Dr. Braun did not return his brother started searching for him and found him not far from the car lying in the snow. He had evidently been stricken with a sudden paralysis of the heart as he had not moved from where he first fell. Dr. Braun was a graduate of Rush Medical, 1892.

Dr. R. H. DeLap, who for over fifty years has been a resident of Richland County, died suddenly October 30, while enroute to the home of his son, Robert, at Tacoma, Washington. Death occurred at or near Harlowton, Montana, and was caused by heart failure. Dr. DeLap had been in poor health for some time and thought that a change from his regular duties would be of benefit to him.

Dr. Joseph Lewis, 74, for more than 50 years a resident of Milwaukee, died at his home, 334 Hanover St., November 15.

CORRESPONDENCE

November 22, 1922.

Rock Sleyster, Editor,
Wisconsin Medical Journal,
Milwaukee, Wisconsin.
Dear Sir:

Will you be kind enough to publish the following announcement in your Journal at your earliest opportunity?

The National Board of Medical Examiners announces the following dates for its next examinations:

Part I: February 12, 13, and 14, 1923.

Part II: February 15th and 16th, 1923.

The fees for these examinations have been continued at the reduced rate for another year. Applications for these examinations must be forwarded not later than January 1, 1923. Application blanks and circulars of information may be obtained from the Secretary of the National Board, Dr. J. S. Rodman, Medical Arts Building, Philadelphia, Pa.

Thanking you for your cooperation in this matter, I remain,

Sincerely yours,
J. S. Rodman,
Secretary.

R-m.

Nov. 24, 1922.

Rock Sleyster, Editor,
Wisconsin Medical Journal,
Milwaukee, Wisconsin.

The undersigned is desirous of obtaining information regarding the prevalence of Infectious Jaundice in your State.

The disease is non-reportable and information regarding its prevalence cannot therefore be obtained from Boards of Health. I shall be grateful for any reports of outbreaks which your readers may care to send me.

George Blumer, M. D.

195 Church Street,
New Haven, Conn.

December 7, 1922.

To the Editor:

I am endeavoring to make a complete study of the distribution of human actinomycosis in this country. The number of cases reported in the literature is surprisingly small, and I know that the disease is not so rare as is sometimes thought. I shall greatly appreciate hearing directly from any one who has had experience with this disease, and desire to know concerning case histories the following: age, sex, occupation, residence, state in which the disease was contracted, location of lesion, duration of symptoms, and any special points of interest connected with the treatment, outcome of the disease, or necropsy findings.

A. H. Sanford, M. D., *Mayo Clinic*,
Rochester, Minnesota.

SECRETARIAT OF Dr. NANSEN
FOR THE RELIEF OF RUSSIA. Geneva, Nov., 1922.

Communiqué on the health situation, No. 2.
Situation of the Doctors
in the Province of Nikolaev, Ukraine.

Dr. Haigh, a member of the Health Committee of the League of Nations, and health expert attached to the Nansen Organization, communicates the following details on the present position of the doctors and health offices in the province of Nikolaev:

"The assistance given to doctors has so far been negligible, and no organization for their relief exists in the province. A few doctors who have friends abroad have occasionally received parcels of foodstuffs.

"All goes to show that in the coming winter the famine and conditions of life generally will be still worse than in the past, unless help is sent from abroad.

"The doctors receive their salaries only after long delays. Their tragic position continues to grow worse. During the past winter some supplies were officially distributed to them, but even this relief has now come to an end. The medical staff must meet their necessities as best they can. Very many doctors are only able to subsist by the sale of their furniture, or any objects which they may possess. Even those who have the best practices are in need of clothing. The poorer doctors who live in remote districts have to rely on the help of such peasants who have themselves managed to escape ruin.

"The situation in the province of Nikolaev gives some idea of the conditions which exist in other parts of the country.

"Without the official ration, which consists of an English pound of maize distributed to a portion of the staff in the hospitals, life would have been impossible in these establishments. This relief has now come to an end. At the present moment a hospital doctor, if he is paid, receives 27 million roubles (in September this was equivalent to 1 pound sterling, but at the present moment it is less than 8/—). The hospital sisters receive about 20 million roubles, and other members of the staff still less. A great number of persons belonging to the staff of the hospitals have died at their posts."

This picture clearly shows the tragic position of the Russion doctors in the famine districts, and the urgent necessity for providing them with relief.

CAUSE AND RELIEF OF ACUTE INTESTINAL OBSTRUCTION.

Charles H. Mayo, Rochester, Minn. (*Journal A. M. A.*, July 15, 1922), states that the high mortality attending ileus is lowered by early diagnosis, judgment and prompt action when the condition is relievable. Obstruction is due to the various types of hernia. True intra-abdominal ileus is due to bands, volvulus and openings in the mesentery or in the diaphragm, serious because of difficulties of diagnosis. Obstruction just below the duodenum causes alkalosis with tetany. Obstruction lower in the tract is manifested by vomiting of foul fluids. Prompt surgical relief of high obstruction is discussed. Colonic obstructions are most commonly due to malignancy, diverticulitis or volvulus. Time should not be lost in instituting efforts to make an exact diagnosis of cause, but surgical measures should be instituted at the earliest moment. The dangers of an unnecessary exploration are trivial compared with the grave risks of delay. Operation for relief of obstruction should be limited to a life-saving procedure, such as colostomy or enterostomy. The nature of the obstruction should be determined at operation, and future procedures should be based on the cause of obstruction. There is difficulty in differentiating diverticulitis from malignancy. Postoperative obstruction too often suffers from delay. The stomach tube is a valuable instrument in cases of obstruction. Early exploration should be made in postoperative obstruction to free adhesions. If exploration is delayed, ileostomy or jejunostomy is indicated. Local anesthesia or combined anesthesia is the method of choice.

THE JOURNAL
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TO UTILIZE
IT FOR THE
EXPRESSION OF
YOUR VIEW
ON
MEDICAL SUBJECTS

TREATMENT OF HYPERTENSION.

Specific application is made by NELLIS B. FOSTER, New York (*Journal A. M. A.*, Sept. 30, 1922), to definite disease groups wherein some type of hypertension is a symptom. The most common disorder under this heading is nephritis. The principle which is most likely to be useful in the management of this disorder, he says, is to regard vascular hypertonus in this group of cases as a symptom of an intoxication. These cases progress to cardiac disorders and vascular accidents. Having in mind the usual course of events, it is mandatory to correct the disorder in its earliest stage—the only stage in which restitution to normal can be expected. It is essential not only to know the details of the physical state of the patient so far as it is possible to know them, but also to become acquainted with the temperament and the habits of the patient, especially in respect to work (both physical and mental), food and sleep. The primary object in regulating the treatment is to correct modes of life which are unwholesome. In the case of the person who has been accustomed to little or on exercise, it becomes necessary to increase the exercise gradually until he is able to do as much as a person of his age should do. His diet should be regulated according to his proper weight and not according to his real weight. That is to say, if a person weighs 200 pounds (91 kg.) and his proper weight for his height is 180 pounds (80 kg.), his diet should be on the basis of maintaining his weight at 180. As a general rule, the treatment of hypertension cannot be carried out successfully in the home. It is Foster's belief that early cases of hypertension should be treated in special sanatoriums. The mental atmosphere is primarily one of sport; vigorous exercise is the rule, but in the form of games and of sports rather than in the form of gymnastic exercises. Under a regimen in this sort of atmosphere, the patient receives a kind of reeducation, his philosophy of life is corrected, and values assume a better proportion. Physically, the flabby individual becomes hard, and all of his bodily functions are toned up accordingly. Instead of consuming more calories in food each day than he expends, he will, for a period, expend more than he consumes and lose weight in consequence. When it is possible to secure the cooperation of patients so that one may carry out a careful regimen through a sufficiently long period of time, elevated blood pressure in early cases is susceptible of cure. The chief obstacles to treatment are, first, that the patient will not cooperate because he still feels perfectly well at a stage in his disorder when treatment offers the best prospect of a successful issue. The second obstacle is economical in the sense that relatively few persons can afford to devote themselves exclusively, for a number of months, to the cultivation of their health. When the patient cannot give up enough of his time to carry out a routine such as that outlined, the best compromise consists in directing therapeutic effort to the adjustment of the diet, so that it shall be adequate for the patient but not a surplus, and secondly, regulating the life of the patient to insure as much exercise and diversion as is compatible with his necessary routine activities. The observation of a large number of cases of hypertension has led Foster to believe that the disorder is far more common among those of sedentry occupations than among persons who do vigorous manual labor. Many cases of hypertension come first under observation at a period when the heart is already seriously damaged and when a considerable degree of arterial degeneration and sclerosis is detectable. Many of these patients also have a serious impairment of the renal functions. At this stage in the disease, little or nothing can be done for the treatment of hypertension. The best that can be hoped for is, through conserving strength by rest, to diminish in some degree the burden on the laboring heart.

PRIMARY CLOSURE OF WOUND WITHOUT DRAINAGE IN USUAL COMPOUND FRACTURE OF LEG.

T. Turner Thomas, Philadelphia (*Journal A. M. A.*, Aug. 5, 1922), states that it is probable that most compound fractures of the leg are made compound by the protrusion of a fragment end through the skin, and that, consequently, the associated wound cavity is primarily free of infection, except for that introduced by contact of the usual small wound surface and the protruding fragment end with adjacent objects, such as soiled clothing, dirt and other foreign bodies. The ordinary asceptic technic to prevent the introduction of more infection and the thorough swabbing out of the entire wound cavity to overcome the infection already present may be justifiably followed by complete closure of the wound without drainage. Improvement in results should be sought chiefly in a method of perfectly immobilizing the exactly adjusted fragment ends. Success in finding such a method would materially increase the number of cases in which healing by primary union of the soft tissue wound and by primary union of the bone fragments occurs. The final results in this group of thirteen cases are much better than could be expected without the early accurate adjustment of the fragments and the cleansing effect of the tincture of iodine.

TREATMENT OF NONUNION OF FRACTURES OF MANDIBLE BY FREE AUTOGENOUS BONE-GRAFTS.

The indications for bone-grafting of the mandible given by Fulton Risdon, Toronto (*Journal A. M. A.*, July 22, 1922), are: nonunion of fragments of long standing; loss of bone due to gunshot wounds; carcinoma; infection, cysts, etc., provided enough of the ascending ramus is in situ. The bone selected for transplanting is always taken from the crest of the ilium. Intratracheal anesthesia is preferred. Of seventy operations, sixty-six, or 90 per cent, were successful, four were failures and there were no deaths.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Rest, Suggestion and other Therapeutic Measures in Nervous and Mental Diseases. By Francis X. Dercum, M. D. Philadelphia. P. Blakiston's Son & Co. 2d Edition.

The Kingdom of Evils. By E. E. Southard, M. D., and Mary C. Jarrett. New York. The Macmillan Company. 1922.

The Practice of Preventive Medicine. By J. G. Fitzgerald, M. D. St. Louis. C. V. Mosby Co. 1922. Price, $7.50.

Nervous Ills, Their Cause and Cure. By Boris Sidis, M. D. Boston. Richard D. Badger, The Gorham Press. 1922.

Life Shortening Habits and Rejuvenation. By Arnold Lorand, M. D. Carlsbad. Philadelphia. F. A. Davis Co. 1922. Price, $2.50.

Types of Mental Defectives. By Martin W. Barr, M. D. 31 plates containing 188 illustrations. Philadelphia. P. Blakiston's Son & Co. 1922.

Tuberculosis, Its Cause, Cure and Prevention. By Edward O. Otis, M. D. New York. Thomas Y. Crowell Co. 1922.

Signs of Sanity and the Principles of Mental Hygiene. By Stewart Paton, M. D. New York. Charles Scribner's Sons. 1922. Price, $1.50.

The Biology of Death. By Raymond Pearl. Philadelphia. J. B. Lippincott Co. 1922.

The Foundations of Personality. By Abraham Myerson, M. D. Boston. Little, Brown and Company. 1922.

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner, M. D. 2d Edition. St Louis. C. V. Mosby Co. Price, 75c.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery. 2d Edition. Philadelphia. P. Blakiston's Son & Co.

Acute Cases in Moral Medicine. By the Reverend Edward E. Burke. New York. The Macmillan Company. 1922.

Mind-Energy, Lecturers and Essays. By Henri Bergson. New York. The Macmillan Company. 1920.

The Laws of Sex. By Edith Houghton Hooker. Boston. Richard G. Badger, The Gorham Press. 1922.

Regional Anesthesia. By Gaston Labat, M. D. With a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

A Short History of the World. By H. G. Wells. Illustrated. New York. The Macmillan Company. 1922.

Neighbors Henceforth. By Owen Wister. New York. The Macmillan Company. Price, $2.00.

A Daughter of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

A Son of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume II, Number VI), St. Louis Number, December, 1922), 248 pages, with 105 illustrations and complete Index to Volume II. Per clinic year (February, 1922, to December, 1922). Paper, $12.00 net; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

Diseases of Women. By Harry Sturgeon Crossen, M. D., F. A. C. S. 5th Edition, Revised and Enlarged, with 934 engravings, including one color plate. C. V. Mosby Co., St. Louis. 1922. Price $10.00.

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod. 4th Edition, with 243 illustrations, including nine color plates. C. V. Mosby Co., St. Louis. 1922. Price $11.00.

Physical Diagnosis. By W. D. Rose, M. D. 3d Edition. 319 illustrations. C. V. Mosby Co., St. Louis. 1922. Price $8.50.

Syphilis. By Burton Peter Thom. Illustrated with 69 engravings. Lea & Febiger. Philadelphia and New York. 1922. Price $5.50.

Injury, Recovery and Death. In Relation to Conductivity and Permeability. By W. J. V. Osterhout. Philadelphia and London. J. B. Lippincott Co. Price $2.50.

A Young Girl's Diary. Prefaced with a letter by Sigmund Freud. New York. Thomas Seltzer. 1921. Price $5.00.

Bronchoscopy and Esophagoscopy. By Chevalier Jackson, M. D., Professor of Laryngology, Jefferson Medical College, Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Octavo of 346 pages with 114 illustrations and 4 color plates. Philadelphia and London. W. B. Saunders Company. 1922. Cloth $5.50 net.

The Elements of Scientific Psychology. By Knight Dunlap. Illustrated. C. V. Mosby Co., St. Louis. 1922. Price $3.50.

An Outline of the Pirquet System of Nutrition. By Dr. Clemens Pirquet, Professor of Pediatrics at the University of Vienna, Austria. 16mo of 96 pages. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, $2.00 net.

A Text-Book on Minor Surgery. By C. Vaughn, M. D., and Athel Campbell Burnham, M. D. Illustrated with 459 engravings. Lea & Febiger, Philadelphia and New York. 1922.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D. 3d Edition. Illustrated with 129 engravings and 28 plates. Lea & Febiger, Philadelphia and New York. 1922. Price $8.50.

The Evolution of Public Health Nursing. By Annie M. Brainerd, Editor of the "Public Health Nurse," Lecturer on Administration of Public Health Nursing in Western Reserve University. 12mo of 454 pages, illustrated. Philadelphia and London. W. B. Saunders Co. 1922. Cloth, $3.00 net.

Lectures on Dietetics. By Max Einhorn, M. D., Emeritus Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. 12mo of 244 pages. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, $2.25 net.

Animal Parasites and Human Disease. By Asa C. Chandler, M. D., Ph.D. 2d Edition, revised. New York. John Wiley & Sons, Inc.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M. D. 4th Edition, with 172 illustrations. Philadelphia. P. Blankiston's Son & Co. 1922.

A Manual of Pharmacology and Its Application to Therapeutics and Toxicology. By Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. 2d Edition, Entirely Reset. Octavo of 1,066 pages. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth Edition, Revised. Octavo volume of 749 pages, with 1,252 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Polished Buckram, $8.50.

Clinical Medicine: Tuesday Clinics at the Johns Hopkins Hospital. By Lewellyn F. Barker, M. D., LL.D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns' Hopkins Hospital, Baltimore, Md. Octavo of 617 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. VI, Number 1, July, 1922. By St. Louis Internists. Octavo of 203 to May, 1923). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

Othalmoscopy, Ritnoscopy and Refraction. By W. A. Fisher, M. D., F. A. C. S. Chicago. 240 illustrations including 48 colored plates. Published by W. A. Fisher, M. D., 31 No. State St., Chicago. 1922. Price $4.00.

Hughs' Practice of Medicine. 12th edition. By R. J. E. Scott, M. D. 63 illustrations. Philadelphia. 1922. P. Blakiston's Son & Co.

BOOK REVIEWS

Rest, Suggestion and Other Therapeutic Measures in Nervous and Mental Diseases. By Francis X. Dercum, M. D. Philadelphia: P. Blakiston's Son & Co. 2nd edition.

This volume covers Rest, Its Functions and Its Results, Chronic Fatigue, Rest in Neurasthenia, Hysteria, Chorea and Other Functional Nervous Diseases, and in Organic Nervous Diseases. A second part covers the Prevention of Insanity and the Treatment of Special Forms of Mental Disease. A third part of the work is devoted to Suggestion. It is a work for the general practitioner as well as the specialist. It is to be regretted that men in general practice pay so little attention to the subject. It is most highly recommended.

The Kingdom of Evils. By E. E. Southard, M. D., and Mary C. Jarrett. New York: The Macmillan Company, 1922.

This work was nearly complete at the time of Dr. Southard's sudden death in 1920. It is essential psychiatric social work, presented in one hundred case histories, together with a classification of social divisions of evil. The cases of mental affliction recorded serve as a basis for a general discussion of the possible sphere of psychiatric research. It is most interesting reading, each case report a little story of human interest in itself. It is a most deserving work.

The Practice of Preventive Medicine. By J. G. Fitzgerald, M. D. St. Louis; C. V. Mosby Co., 1922. Price $7.50.

This is a very deserving new text by the Professor of Hygiene and Preventive Medicine at the University of Toronto, and it has been issued to outline some of the work of the physician who is to function on the preventive as well as the curative side of medicine. It covers the subject in a very complete and comprehensive manner, is a volume of nearly nine hundred pages and is splendidly illustrated. We bespeak for it the attention of medical practitioners, students in medicine, public health officers and public health nurses.

Nervous Ills, Their Cause and Cure. By Boris Sidis, M. D. Boston: Richard D. Badger, The Gorman Press, 1922.

Dr. Sidis has given in this volume a popular account of some of his work in Psychopathology and deals with that part of abnormal psychology relating to the subject of Nervous Ills. The work should not be confounded with the ordinary work on psychoanalysis. It is written for the reader who wishes to learn the truth and is not sensationally gotten up for those in search of new emotions. It is recommended to the thoughtful physician and the cultured layman.

Life Shortening Habits and Rejuvenation. By Arnold Lorand, M. D., Carlsbad. Philadelphia: F. A. Davis Co., 1922. Price $2.50.

This work is divided into three parts, the first covering the ten chief life shortening habits; the second, the rapid ageing of women; the third is written on rejuvenation. It is written in an old convent in Vienna, the monastery of the Capuchin fathers, who offered the author hospitality and shelter during the last two years of the World War. It is an exceedingly interesting work and well worth reading.

Types of Mental Defectives. By Martin W. Barr, M. D. 31 plates containing 188 illustrations. Philadelphia: P. Blakiston's Son & Co., 1922.

This little work of 175 pages has been written to help those entering upon the study of the feeble-minded, to recognize the various forms of mental defect. It is written in clinical style, each case presented in a most interesting and instructive manner.

Tuberculosis, Its Cause, Cure and Prevention. By Edward O. Otis, M. D. New York: Thomas Y. Crowell Co., 1922.

A work giving the simple facts of tuberculosis in such

a form as will be intelligible and interesting to the layman. The work was first published under the title "The Great White Plague" four and a half year ago. It has received a deservedly popular reception.

Signs of Sanity and the Principles of Mental Hygiene. By Stewart Paton, M. D. New York: Charles Scribner's Sons, 1922. Price $1.50.

Anything from the pen of this distinguished author is welcomed especially by the medical fraternity, though this particular book is intended not for the scientific man, but for the general reader. Those who have read Dr. Paton's "Human Behavior" will need no urging to purchase his newer work, those who have not are advised to order both at once.

The Biology of Death. By Raymond Pearl. Philadelphia: J. B. Lippincott Co., 1922.

This is one of Lippincott's Monographs on Experimental Biology and consists of a series of lectures delivered at the Lowell Institute in Boston in 1920, by Raymond Pearl of the Johns Hopkins University. The author has brought together some of the more important contributions made to our knowledge of natural death, from three widely scattered sources: namely, general biology, experimental biology, and statistical and actuarial science.

The Foundations of Personality. By Abraham Myerson, M. D. Boston: Little, Brown and Company, 1922.

In this work Dr. Myerson analyzes the fundamentals of character and what comprise it, character types are described. The energies of man are traced as they expend themselves in emotion, instinct and intelligence and the development of interest and desires into purpose. An understanding of the characters of those with whom we come in contact is most important in our intercourse with our fellow men, and Dr. Myerson is to be congratulated on his splendid work on the subject.

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner, M. D. 2nd Edition, St. Louis: C. V. Mosby Co., Price 75 cents.

This is an illustrated description of forty-two exercises for invalids and convalescents, simply written so it can be given directly to the patient. The medical profession has been too prone to overlook the importance of the subject, and any physician could well afford to order this little work by the dozen, as there is scarcely a day he could not give it to some patient with benefit.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery. 2nd Edition. Philadelphia: P. Blakiston's Son & Co.

This attractive little work in leather cover is an abridgment of the standard "Cyclopedia of Medicine and Surgery." It is a condensation of the accumulated medical knowledge of the day, and in it may be found a very adequate condensed description of all medical and surgical disorders, including definitions, etiology, symptoms, diagnosis and treatment. It may be carried in the pocket as it is small in size and printed on paper of tissue thickness. It will be found most convenient for a quick reference.

Acute Cases in Moral Medicine. By the Reverend Edward F. Burke. New York: The Macmillan Company, 1922.

This little work of 136 pages is written for the doctor, nurse and others, whose duty it is to care for the sick, and presents the views of the Catholic church, especially as to the rights of the mother and her unborn child, and gives ethical directions on other matters of practical importance. It contains most important information for the medical practitioner in his relation with the family of Catholic faith.

Mind-Energy, Lectures and Essays. By Henri Bergson. New York: The Macmillan Company, 1920.

The separate articles here published are partly lectures in exposition of philosophical theory, partly psychological investigation and metaphysical research. It covers such subjects as Life and Consciousness, The Soul and Body, Treatments and Intellectual Effort. It is an exceedingly interesting and unusual work.

The Laws of Sex. By Edith Houghton Hooker. Boston: Richard G. Badger, The Gorham Press, 1922.

The material presented in this book represents the actual results of about seventeen years' labor. It is presented chiefly for the information of that large group of American women who desire to improve moral conditions, but who do not know how to turn their newly won political power to this end. It is essentially a work for the lay woman and could be safely recommended for the purpose for which it was written.

Regional Anesthesia. By Gaston Labat, M. D., with a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth $7.00 net.

The foreword written by Dr. Mayo emphasizes the growing importance of regional anesthesia. The object of Dr. Labat's work is to afford the opportunity of acquiring rapidly a practical knowledge of the subject, and this teaches the reader how to use the method successfully. It is a splendid work on a most timely subject, is beautifully illustrated and will prove a most profitable investment to any practitioner doing any amount of surgery.

A Short History of the World. By H. G. Wells. Illustrated. New York: The Macmillan Company, 1922.

No work of recent years has attracted wider attention

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than Well's "Outline of History." This short history of the world is meant to be read straightforward, almost as a novel is read. It gives in a most general way an account of our present knowledge of history, shorn of elaborations and complications. It reads like a novel and is beautifully illustrated. It is most highly recommended for the busy reader, too driven to study the maps and time charts of the larger book in detail, an abstract of condensation of which it is. It is a most fascinating study which the busy physician will appreciate when he has an "evening off."

Neighbors Henceforth. By Owen Wister. New York: The Macmillan Company. Price $2.00.

The plight of France, the deed of Germany, and the international destiny of the United States, are the main themes of this volume, which closes a series of three, begun with the "Pentacost of Calamity" and followed by "A Straight Deal." Mr. Wister has succeeded in picturing our doughboys as he pictured the cowboy of old. It is a most fascinating work.

A Daughter of the Middle Border. By Hamlin Garland. New York: The Macmillan Company, 1922.

Hamlin Garland has here taken up and carried forward the history of Isabelle McClintock and Richard Garland. It tells of his early struggle, his life on the Wisconsin homestead, and is an autobiographic record which reads like a novel, but is in fact a part of the intimate social history of this section of the country.

A Son of the Middle Border. By Hamlin Garland. New York: The Macmillan Company, 1922.

Here is another most fascinating work by Wisconsin's most distinguished author, the simple homelike story of the American pioneer, a tale of courage and of vision detailing the lives of a typical American family on the Wisconsin frontier in the generation following the Civil War.

AGAIN THE POOR BOY AND MEDICAL EDUCATION.

Long before the campaign began for the improvement of medical education, appeals were frequently being made for "the poor boy who wants to get a medical education," and, as the higher entrance standards began rapidly to be adopted by medical schools, appeals of this kind were repeatedly commented on by *The Journal*. The situation for the poor boy today is better, if anything, than it was twenty years ago. It is true that medical colleges have increased their requirements for admission from a high school education to two years of college work. The two years of college work, however, are nó hindrance to the poor student; there are many colleges which provide abundant opportunities whereby students of limited means may work for all or part of their expenses. More time, indeed, is required, but these two years are well spent by the student in securing a better preparation for his medical studies. It is true, also, that the cost of conducting a medical school has been greatly increased during the last twenty years; but, during the same time, the fees paid by medical students have been only moderately advanced and cover only a small portion of the cost. Even the slightly increased fees, however, are more than offset by the establishment of free scholarships and generous loan funds in the better grade medical schools. The opportunities for the student of limited means to secure a medical education have in no way been diminished. As a matter of fact, the anxiety which is still being expressed for the boy who is poor in purse but not in intelligence is not warranted by the facts. Investigation discloses that many students of limited means are found in all of our high-grade medical schools, in which these students are enabled in various ways to work their way through. Meanwhile, it is the student of limited means who, as a rule, best appreciates the value of both time and money. He is not enticed by the pretentious statements of low-grade medical colleges, but usually selects the better institution. It is quite evident, therefore, that the improved standards of medical education are not hindering the student who is poor in purse from obtaining a medical education.—*Jour. A. M. A.*, Aug. 19, 1922.

CHAULMOOGRA OIL TREATMENT OF TUBERCULOUS LARYNGITIS.

Seven patients were set aside for treatment with chaulmoogra oil. These patients, Robert A. Peers and Sidney J. Shipman, Colfax, Calif. (*Journal A. M. A.*, Aug. 5, 1922), state, were purposely chosen because of the severity of their laryngeal lesions which, with one exception, caused excruciating pain and dysphagia. With this one exception, they were all febrile patients with far advanced pulmonary tuberculosis, and the prognosis was, therefore, grave. The most that was hoped for was the relief of symptoms. In all seven of the patients, there was involvement of the epiglottis, arytenoids and the cords. The treatment was carried out after the method described by Lukens with a laryngeal syringe. An average of three injections a week were given, beginning with a 10 per cent solution of chaulmoogra oil in olive oil for one week, followed by a 20 per cent solution thereafter. In only one instance were the subjective symptoms markedly altered. In this case, the relief of the dysphagia was remarkable. The patient states that her throat feels much better, and that she swallows more easily. Examination reveals a normal appearing epiglottis, small arytenoids, and cords thickened but pale. In general, the patients said that their throats felt somewhat better after each treatment. Except in one case, this was transitory, however, and in two cases injection of the superior laryngeal nerves was necessary to relieve the pain. The authors urge that caution should be used in the laryngeal treatment of tuberculosis with chaulmoogra oil until more accurate data are in our possession concerning its local and general effects.

Wisconsin Tuberculosis Sanatoria

AND THE

United States Public Health Service

Wisconsin can well afford to be proud of the high rating given to its Tuberculosis Sanatoria, County, State and private, at a recent inspection by the United States Public Health Service. No not 100%, but sufficiently high to show that the Sanatoria as a group are conducted on progressive and efficient lines.

Your tuberculous patients should be given the best of opportunity to get well. Give this to them by suggesting sanatorium treatment close at hand.

COUNTY AND STATE INSTITUTIONS

Name	City	Superintendent
State Sanatorium	Statesan	Dr. L. W. Dudley
Tomahawk Lake Camp	Tomahawk Lake	Mr. F. A. Reich
Parkland (for the tuberculous insane)	Itasca Station, Superior	Mr. W. J. Conness
Forest Lawn	Jefferson	Miss Levina Dietrichson
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PRIVATE INSTITUTIONS

River Pines	Stevens Point	Dr. J. W. Coon
Morningside (Formerly Madison Tuberculosis Sanatorium)	R. No. 3, Madison	Mrs. Sybella S. Snyder

Patients who are unable to pay may be admitted at County and State expense.

The Wisconsin Anti-Tuberculosis Association, Health Service Building, 558 Jefferson Street, Milwaukee, Wisconsin, will give any assistance necessary in locating vacancies.

F. GREGORY CONNELL M. D.

OSHKOSH, WISCONSIN

President, State Medical Society of Wisconsin, 1923

The Wisconsin Medical Journal

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TRANSACTIONS

OF THE

SEVENTY-SIXTH ANNUAL MEETING

OF THE

STATE MEDICAL SOCIETY OF WISCONSIN

AT GREEN LAKE, SEPT. 6, 7 AND 8, 1922

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TRANSCRIPT OF PROCEEDINGS OF THE HOUSE OF DELEGATES OF THE STATE MEDICAL SOCIETY OF WISCONSIN

First Session, Tuesday, September 5, 1922, in the Pavilion, Oakwood Hotel, Green Lake 2:30 P. M.

Meeting called to order by the President, Dr. Sidney S. Hall, Ripon.

Roll-call of Delegates by the Secretary.

PRESIDENT: The first order of business is the report of the Committee on Public Policy and Legislation, Dr. O. B. Bock, Chairman.

DR. O. B. BOCK: Mr. President and Gentlemen: The report is printed in the handbook. We have no regular report to make, for the simple reason that we could never get our committee together and agree upon just exactly what we want, and we thought we would defer our plan of the new law or bill, which we intend to introduce at the next session of the legislature, until after this meeting when we could get an opinion from the rest of the men as to the best way to attack our mutual friends. I tried it single handed and alone in the last legislature, on the advice of some of the councillors that the society as a whole did not care to father it, and thought it would be best that an individual try it. So I had a bill drawn up by Senator Benfry. We introduced a bill of minimum standards, recognizing the chiropractors, but demanding of them an examination. We had no difficulty in passing the bill through the senate, and in the assembly we killed every substitute measure and every amendment they put to it. Our bill passed, even to the third reading. On the second reading, which was in the morning, we did not figure that the bill would come up again that same day, but they put the bill on for passage right after supper, and if it had not been that three of the assemblymen who were favorable to our measure, happened to go in and see they were voting on the bill, it would have been defeated; but they registered and the vote stood 30 to 32 in our favor, and the following day it passed the assembly. Owing to the fact that there were but two votes, it was dangerous, and we called for reconsideration. Then came the week-end, and what defeated our measure was nothing more than the absentees, the week-enders that went home. They took in all 11 ballots. I have here an absolute record of how each and every assemblyman voted. They beat us finally and the vote was 40 to 49, after we made a call of the house. I am credibly informed that money was spent to do this. As far as I was concerned, I paid my own expenses, but I did not have money enough to beat Palmer. I have here a record, and those of you who have not seen this record can have it and see just how your assemblymen voted. I am fairly convinced that we can be successful during the next legislature, but it is not going to be a walk-a-way. By some hook or crook these people have a power over your assemblymen. We had not only the chiropractor, but the anti-vivisectionist, the Christian Scientist and the antis in general and the Socialists to a measure—not all, but most of them.

Our plan this year is to copy, if possible, the Ohio or the Michigan law, which has stood the test of a supreme court decision. It recognizes the different cult schools, but demands a minimum standard of education and a minimum examination on anatomy, physiology of the body in health, pathology of the body in disease, diagnosis, hygiene and sanitation. That to go with a high school certificate.

I am of the opinion that possibly we could get the universities to make this examination, a sort of prelimination examination—because they will say they don't want to be examined by medical men who are prejudiced. I do not know of an anatomist except among the medical men. I thought possibly Dr. Bardeen of the University, could do that, so that they would take that branch of the preliminary examination.

None of the other members of the committee are here. So that is practically all the report I have to make.

I have several resolutions that I wish to introduce, but they would come up later, I suppose.

PRESIDENT: If there is no objection, we will listen to the resolutions.

Resolutions read by Dr. Bock as follows:

RESOLUTION TO SUBMIT A "MEDICAL PRACTICE ACT" TO THE NEXT STATE LEGISLATURE.

Whereas, the ever increasing number of different cult schools of the healing art, are sending their graduates into our State, and

Whereas, some of these practitioners are not required to pass any examinaton or procure a license to practice their alleged professions within this State, and

Whereas, the doors of this State are wide open for the admission of such practitioners, and as a result an unsuspecting public is in danger of being imposed upon, as a result of insufficient protective measures,

Now Therefore Be It Resolved, by the Wisconsin State Medical Society, that in view of existing conditions, a Medical Practice Act be submitted by it to the next session of the State Legislature, that will be just and impartial to all schools and methods of healing, adequate in its protection to the general public,

Be It Further Resolved, that the House of Delegates of the Wisconsin Medical Society, hereby direct and authorize the Committee on Legislation to cause to be drawn a new Medical Practice Act, in accordance with the foregoing, to govern the practice of the art of healing in this state; and that for such purpose the said Committee be authorized to employ such legal counsel, as it may deem necessary, to draft a proper and suitable bill, and that the said Committee be further authorized to incur such expense, not to exceed its budget apportionment, as it may find necessary to properly submit such bill to the Legislature, to the end that its passage may be obtained.

O. B. Bock.

RESOLUTION ON VOCATIONAL TRAINING OF DISABLED SOLDIERS

By DR. O. B. BOCK, Sheboygan, Wisconsin.

Whereas, The St. Louis Medical Society on May 16 1922, by Memorial and Resolutions vigorously protested against the approval by the U. S. government of the School of Chiropractic as a means of vocational training for disabled ex-service men, and

Whereas, It appears that more than 250 ex-service men from all parts of the country, seventy of whom represented the Ninth District composing the states of Missouri, Iowa, Kansas and Nebraska, are now enrolled in one Chiropractic School in this District with the sanction and approval of the U. S. government; therefore, be it

Resolved, That the House of Delegates of the Wisconsin State Medical Society in convention assembled, representing a membership of over 1900 physicians, adequately trained in the arts and sciences (the only foundation for the recognition, control and prevention of disease), approves the sentiments expressed in the Memorial and Resolutions adopted by the St. Louis Medical Society, which have been submitted to this House, and hereby directs that the proper officers of the Wisconsin State Medical Society memorialize and petition the Federal government, particularly those officers charged with the responsibility for the rehabilitation of disabled ex-service men, and to take such action in the interest of the welfare of all the people, and also for the protection of those who honestly desire to administer to the sick, to the end that the ex-soldiers seeking vocational training, which will fit them for ministering to the sick and aiding in the recognition, control and prevention of disease, shall, at least, meet the requirements and shall receive such adequate training as is defined in the classification of medical schools of the American Medical Association, known as Class A, or acceptable medical schools—a standard which is approved by all right-thinking people moved by a desire for public welfare.

Respectfully submitted.

O. B. Bock.

Resolution On The Volstead Act, Introduced by Dr. O. B. Bock, Sheboygan, Wis.

Whereas, The medical profession has been subjected to criticism and unfavorable comment because of present conditions associated with the enforcement of the Volstead law, and

Whereas, The results of a referendum conducted by The Journal of the American Medical Association, covering 54,000 physicians, indicates that 51 per cent of physicians consider whiskey "necessary" in the practice of medicine, and

Whereas, The dosage method, frequency and duration of administration of this drug in any given case is a problem of scientific therapeutics and is not to be determined by legal or arbitrary dictum, and

Whereas, The experience of physicians, as reported in The Journal, indicates that the present method of control, limitation of quantity and frequency of administration, licensure and supply of a satisfactory product constitutes a serious interference with the practice of medicine by those physicians who are convinced of the value of alcohol in medical practice, therefore be it

Resolved, That the House of Delegates of the Wisconsin State Medical Society in convention assembled, representing a membership of over 1900 physicians, appeals to the Secretary of the Treasury and to the Congress of the United States for relief from the present unsatisfactory conditions, and recommends that provisons be made for supplying bonded whiskey *For Medical Use Only*, at a fixed retail price to be established by the Government.

O. B. Bock.

PRESIDENT: Gentlemen, will you act on these resolutions as a whole or do you wish to act on them individually? There are three of them.

DR. M. R. WILKINSON: Mr. President, I move the adoption of the report, including the resolutions as read.

Motion seconded.

PRESIDENT: Is there any discussion?

(Calls for the question)

Motion put and carried.

DR. O. B. BOCK, Sheboygan: Mr. President and Gentlemen, your committee on legislation would like to have every county society name a committee within the society that will take a special interest in this work, then we can organize and get somewhere. We need, especially in the assembly, to have the old family doctor go and call on these men that are being corrupted by the chiropractor. I think that the old family doctor calling upon them has more influence than any letter writing you can do, or money spent on telegrams. After those men have been elected, you know pretty well who they are, and you have ample time between now and the 1st of January to call on them and talk with them and explain the matter to them. Many of them are misled by these chiropractors. Mr. Lundy, of the chiropractic school, has been at the special session; he is there every session of the legislature, buttonholing these men, and when we get there the atmosphere is bad. I knew when I reached the Assembly that I was in bad weather. It is not an easy matter, gentlemen, I assure you, to pass the Assembly, but, with co-operation I have no doubt but what we could pass a bill that will protect us and the public in general.

DR. OTHO FIEDLER, Sheboygan: It is a matter of custom to refer resolutions to the Resolution Committee and submit them to the general body rather than to the House of Delegates alone.

SECRETARY SLEYSTER: No, they are passed by the House. There is, however, considerable important business coming before this meeting, and it might be better to have a committee appointed to consider the reports of officers and committees and report back to the evening session of the House. In my report as Secretary I have a little different plan for financing this than Dr. Bock has in mind, and it is possible the committee and the House might find that preferable to his plan. So it seems to me it might be well to have the chair appoint a committee to consider these matters. They could get together at supper time and discuss the matter, and bring such important matters as raising the fees $5 a year up for consideration this evening, when there will be more members present and when the different members of the House have had a little time to reflect on it. If the House agrees with me, a motion could be made to recall these resolutions and refer them to such a committee.

DR. B. E. SCOTT, Berlin: Mr. President, I move that we recall the resolutions as adopted by this recent vote, and that they be referred to a committee of three, to be appointed by the chair, to give consideration to these and every other resolution that might come before the House of Delegates, the committee to report at the evening meeting.

Motion seconded.

DR. HIGGINS, Milwaukee: Let us recall only this one resolution, and have this other stay as it is.

DR. M. R. WILKINSON, Oconomowoc: The reason I moved that for action of the House of Delegates, I think it would be well, following the other idea, to resubmit for endorsement or rejection before making them a part of the rules of next year, have them endorsed by the general assembly; have it stand as passed here, and report it to the general assembly for endorsement or rejection; if rejected by the general assembly, then it would naturally be without effect.

DR. OTHO FIELDER, Sheboygan: Mr. President, it seems to me that matters of so much importance as these resolutions ought to have a little more consideration than we have given them. The resolutions were not embodied in the printed report that we had, and I should think it would be a very good plan to submit all resolutions that are submitted to the resolutions committee for further consideration and counsel relative to them, and then report back to the House at a later session, or, as Dr. Wilkinson suggests, to the general body. It may be all right, but here is a proposition to tax each member of the society $5 at once. I think we better think about that. I think it is a good plan to tax them, but if there are other methods of raising it, let us consider it this way.

DR. O. B. BOCK: I have no objection to any way you want to handle it. There must be some funds raised. How you do it I do not care. We do not mean that the dues should be permanently raised $5, but if it isn't worth $5 of any man's money to put this bill through, why better let the chiros alone.

(Calls for the question).

PRESIDENT: It has been moved and seconded that we withdraw the resolutions, and appoint a committee to report at a later time.

DR. SCOTT, Berlin: Yes, sir, the three resolutions acted upon to be recalled, and any further resolutions presented this afternoon to be referred to this committee.

Motion put and unanimously carried.

PRESIDENT: Gentlemen, the chair will appoint as that committee Dr. B. E. Scott, Dr. Otho Fiedler and Dr. H. E. Dearholt,

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman, I beg to be excused from service. This is a judicial committee, and I am pretty well committed to other policies of legislation, and I think another person ought to serve in my place on the committee.

PRESIDENT: Well, we will change that last name to Dr. Edward Evans.

DR. EDWARD EVANS, LaCrosse: I am chairman of the Council, and have a lot of other things to do. Seriously, I am speaking for the good of the society.

PRESIDENT: Dr. Higgins is appointed.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

We desire to point out, in the first place, that what is essential in state license of any sort is that it shall not be the granting of privilege for an individual, or a collection of individuals, by which they are to reap advantage, but that it shall be a guarantee of standards

by the state, and that it shall provide protection for the community at large.

The general public do not know and are not expected to know the courses of study and kinds of experience necessary to qualify an engineer. They cannot be expected to examine a locomotive engineer as to his competence before they step on a train. In a well ordered state an engineer cannot have such a position of responsibility without having a certificate or license and cannot have such license without having satisfied the high standards of a rigid examination. The state, by the appointment of examining boards and the issuing of certificates, permits, and licenses, guarantees to its citizens a certain standard of qualification in the engineer and, therefore, safety to the general public.

Such examinations are not for the benefit of the engineer, but for the benefit and safety of the public. They are frequently matters of considerable hardship to men who aspire to be engineers, but the protection of the public demands them. Captains' papers for even the smallest craft cannot be secured except by passing rigid examination. This also is a matter of safeguarding the general public, and providing an assurance that a man so guaranteed has made a sufficient study of the sciences fundamental to navigation, has had experience, and is competent.

In the same way the license of a medical practitioner is not a matter of special privilege for him, but is a matter of protection to the public. It is a state guarantee that one so licensed has made a reasonable study of the human body on health and disease, and of the fundamental principles of diagnosis and treatment, that he has had adequate experience, and, in short, that he conforms to at least the minimum of modern standards of knowledge and efficiency.

The general public has a right to expect of the government that such recognition, license, or guarantee of fitness shall not be loosely or carelessly bestowed. When a child has diphtheria, and proper diagnosis and proper treatment within the next three or four hours are frequently matters of life or death, the father cannot personally examine a half-dozen doctors in order to decide which is most likely to save his child's life. He has a right to demand that any practitioner, the first he can find in his haste and distress, if recognized and licensed and thus guaranteed by the state, shall have had the training and experience to fit him for making a right diagnosis at once and applying the right treatment, which if given on the first day of the disease has been shown to reduce the fatalities to zero, and even when given at a delayed period has reduced the fatalities, as the records of all cases show to one-tenth of what they were before the introduction of the antitoxin treatment.

A mother, as she goes down into the valley of pain and danger to bring a new life into the world, has the right to be sure that any medical practitioner recognized and licensed and so guaranteed by the state, who is asked to help her, shall have a knowledge and experience well up to the best standards of modern science.

The general public is not competent to examine engineers, or navigators, or doctors, as to their preparation for their most important work. They are not competent to examine bridges, or elevators, or steamships, as to their safety. All these are matters for guarantee of competence, or of safety, by the state. This is the essential feature of a license, that it shall be a guarantee of standards which the common man has the right to presume are the highest standards, and which he can feel safe in taking as a guarantee of efficiency. Should any citizen call a practitioner thus guaranteed by the state to treat his child dying of diphtheria, and find too late that the instruction and training the practitioner had undergone were altogether inadequate, with the result that the life which might have been saved was not saved, the father would rightly hold that the state, which should protect life, had betrayed its trust and was responsible for the death of his child. A license is thus primarily and essentially for the protection of the people.

Advance of Modern Knowledge.

Steam engineering has become infinitely more complicated than it was in the day of Watt and Stephenson. A first-class engineer of today must have a knowledge of many branches of science, such as electricity, about which men of the earlier day knew absolutely nothing. The navigator of today must be much more widely trained than the navigator of Columbus' day. In all branches of knowledge and of the practical application of knowledge there has been rapid advance; in none has the progress been more rapid in modern times than in the sciences fundamental to the healing of disease. These, in the past half-century, have advanced farther than the total advance they made in all previous centuries. Every year adds to their scope and to their triumphs. Modern discovery of the small vegetable organisms similar to moulds, known as germs, everywhere present, which are causes of half the diseases we suffer from, has revolutionized the whole of medical practice, made modern surgery possible, and created the most wide-reaching and important method the world has ever known for the eradication of disease, that is to say, the eradication of disease by preventing it—preventive medicine.

A multitude of examples of the successes won in the field of preventive medicine could be given. A few will have to serve our purpose here.

The battle against malta fever was taken up by a commission sent out from England in 1904 by the Royal Society for the Advancement of Science. In 1905 there were 643 cases. Intensive study of the disease finally located the cause in goats' milk. In 1907 there were only seven cases. From 1910 to 1913 there were only 22 cases in all—all traceable to the same cause, and some of these few had not originated in Malta where sanitary measures were in force. This disease may thus be said to have been practically eradicated by measures based on scientific findings.

The Prevention of Typhoid.

In the Spanish-American War in 1898 every fifth man in uniform contracted typhoid fever; in the South African War every fourth man became a victim. In the World War there was in the British Expeditionary Force of 2,000,000 men only one case of typhoid in every thousand; there was a total of 2,143 cases, with 204 deaths, among the inoculated. If the protection against typhoid had been no more than it was during the South African War, there would have been 570,000 cases, and over 80,000 deaths. It is conceded by all that this wonderful saving of lives was due almost entirely to the preventive effects of inoculation against typhoid.

To the public in general the disease tetanus, or lockjaw, has until the past few years practically always meant death. From this disease the mortality in the Civil War in the United States was just short of nine out of every ten wounded patients. During the World War, however, by the free use of antitoxin for tetanus, this dread disease was completely suppressed.

In connection with typhus fever, cerebro-spinal meningitis, hookworm disease, malaria, bubonic plague, yellow fever, and many other diseases, scientific research has in like manner made marvelous findings, and indicated the way for their control, if not, indeed, their entire eradication.

If the engineer of today must be widely and thoroughly taught and trained, much more must the physician be widely and thoroughly taught and trained. A physician, in order to be able to bring the best possible help to those who are sick, must have given many years to study and the gaining of experience. Most medical schools demand today a high standard of general education as a foundation. The standard is frequently raised. Seven years of arduous study is the minimum requirement. Even after the right legally to practice has been secured, two or more years of hospital experience are recommended, and are very often added to the regular training.

Nothing short of such an extended and arduous course of preparation is adequate for those who are to deal with human life in its crises. Nothing less is safe for the people of the country to depend upon in such crises. Nothing less is in keeping with the standards of modern science. Nothing less should be worthy of the splendid history and high traditions of the practitioners of healing.

Chiropractic Cult Schools

In these schools theories of disease are taught which are at variance with facts as definite and as capable of demonstration and proof as the shape of the earth, the movements of the stars, the expansive power of steam, or the rapidity of light. Fundamental facts about disease are denied, which are at the very basis of public health and safety. The theories of disease taught in such schools and held by their practitioners deny fundamental principles upon which are based methods which have already doubled the length of human life in all civilized countries. To embrace such theories and give them their full effect would be to revert to the plagues of the Middle Ages.

The Peril to the Public.

Many thousands of remedial agents and procedures have been found of value in the treatment of human disorders, the uses of any or all of which are included under the general term, "the practice of medicine." Many patients require surgical treatment, such as those having wounds in which arteries are severed, or injuries in which bones are broken, or those suffering from malignant or obstructive tumors, etc. In such cases it would be dangerous or fatal to omit the surgery and to depend alone on manipulation of the spine, on prayer, or on giving only a medical substance.

Patients with diphtheria must be isolated to prevent the spread of the malady, antitoxin must be promptly administered, local antiseptics applied and other forms of treatment followed. To omit the antitoxin and use only any one form of treatment, such as massage, would be disastrous. Failure to recognize the disease as diphtheria would endanger the entire community, from the probable spread of the epidemic.

Again, patients who have taken poisons, whether accidentally or not, require the prompt use of antidotes, some of which are powerful drugs. Here again, to substitute some other form of treatment, such as massage, suggestion, prayer, manual manipulation, or rubbing of the spine, would be futile, and the patient would simply die from neglect.

To know what treatment to apply and to avoid dangerous errors, a scientific training is essential.

The schools and practitioners in question are committed to one single explanation of most disease conditions, and to a very few methods of treatment. After a meager study of the body, holding a disproved theory of disease, and with a single method of treatment, they wish to be guaranteed to the people of Wisconsin by license of the legislature and government as safe and efficient in all emergencies, in the diagnosis and treatment of all diseases. *Though they may ask limited license, we submit that the public danger from such license, in effect, giving them unlimited scope, is one that demands the most earnest and careful consideration.*

Without Scientific Basis.

We know of no university of repute throughout the whole world which has given any recognition to the chiropractic cult. Universities of today are broad in their sympathies. They will teach anything which can be given a rational basis, or is of honest usefulness to the community, from medical science, engineering, architecture and agriculture to salesmanship or millinery. But no university we know teaches osteopathy or the chiropractic method, and no university will teach these, because these methods have not a scientific basis and are not taught or practiced scientifically.

No members of these cults are allowed by insurance

companies of which we have knowledge to make insurance examinations. The head of a leading insurance company, under date of January, 1922, writes, in explanation of this: "Firstly, these people are not doctors; secondly, they are not qualified to make physical diagnoses. Either one of these reasons is a perfectly valid one for not employing these people for life insurance examinations."

What are the reasons for asking the endorsation and sanction of the State for osteopathic, or chiropractic, or other such practitioners? Is it for the benefit of the people of the State? Is it because the health and well-being of the people will be improved thereby? Is it in a missionary spirit these practitioners have come? If so, a license to diagnose and treat disease by any method they may choose is open to them, if they will only give proof of having sufficiently mastered the fundamental and necessary sciences.

Importance of Maintaining Standards.

We submit that the change of law asking for a special board of examiners is not in the interests of the people of the State, or for the betterment of health conditions. We submit that it is asked for very definitely to serve the interests of, and to be of benefit to, a small group of men who cannot or will not comply with present standards of medical education, and are unwilling to devote the necessary years to the scientific study and training requisite to their qualifying themselves adequately. The legislature of Wisconsin is asked to recognize, license and guarantee to the people as competent to diagnose and treat disease individuals who, we believe, fall far short of the educational standards demanded by the University of Wisconsin from our own sons.

The legislature is asked to authorize these individuals to break down bars established for the safeguarding of the health of the public, and to permit them to make their way, by short-cuts not allowed to a graduate of any American university or medical school into life-and-death responsibilities. It is asked that the standards which safeguard health shall be lowered at a time when all scientific standards are being raised. If standards of medical training need to be lowered, why not standards for engineers, and for navigators, and for surveyors, and for teachers, as well? Why not lower the standards set for the strength of bridges, the safety of elevators, or the reserve funds of banks? Certain of these changes would serve the immediate, narrow interests of a few, but every such lowering of a standard would be against the interests of the people at large.

Practicers on Credulity.

Not only are the general public unable to estimate accurately the true value of scientific discoveries in their application to disease; they are likewise unable to put to scientific test the specious arguments and fallacious representations and claims which are put forward—either with knowledge of their real character, or in some cases innocently, without such knowledge and intention of deception—by practicers of the commercialized systems in question. There are many highly neurotic types of individuals, men and women having no definite organic trouble, who are the ready victims of such practicers and their methods. In the world at large there are more troubles and distresses, especially of the nervous type, than ever before. There is thus an increase of the readiness with which large numbers of people accept credulously, representatives based on the human weakness for believing in what is mystical or inexplicable because it lies beyond their range of common knowledge.

On such minds, once that confidence is established by an astute practicer, the power of suggestion is great; and persons thus under the influence of these methods are enthusiastic disseminators of their delusions among those susceptible, like themselves, with whom they come in contact. This undoubted and undeniable fact, we submit, should engage your serious consideration in connection with petitions presented to your honorable body in this regard.

The wide application in our language of the title "Doctor" and the unfair and unwarranted assumption of this title by many of these practicers and its display by them for commercial or other reasons, has frequently the effect of confusing and misleading many people seeking medical or surgical aid; if done with fraudulent intent it is surely nothing short of a forgery upon the public confidence.

No Injustice Involved.

The denial of recognition to those of sub-standard training does not do an injustice to a single individual. The practice of the healing art would still be open widely to all who would pursue studies recognized the world over as essential to the proper understanding of the human body in health and disease. It would rule out merely those who could not, or would not, come up to reasonably high standards. And, from all points of view, this is surely in the interests of the people at large.

The entire plans for the future will be discussed by the Medical Society, at the Green Lake meeting, in September.

O. B. Bock.
E. H. Quick.
Geo. Ruhland.

The next order of business is the report of the Committee on Publication.

REPORT OF THE COMMITTEE ON PUBLICATION.

To the Members of the House of Delegates, State Medical Society of Wisconsin.

Gentlemen:

This year the annual meeting of the State Medical Society was advanced one month; the fiscal year of the Wisconsin Medical Journal does not close until August 31. As it is impractical to compare an eleven months' financial report with a full year's report, I pre-

fer to omit at this time any detailed discussion of the cost of the Journal. The Managing Editor assures me that the report will be ready for presentation at the meeting of the House of Delegates. It may be stated that the somewhat decreased cost of printing and the increase in the amount of advertising sold by the Journal during the past year will undoubtedly show definite lower cost per copy.

In order to obtain a better bird's-eye view of our Journal as a medical publication, I recently took occasion to compare the present Journal with several of the past volumes and also with other State Medical Journals. When compared with these I feel that we have every reason to be proud of our publication as it stands well up among the first few as far as general make-up, interesting contents and quality of advertising are concerned.

Comparing the present Journal with that of recent years, one cannot avoid the thought that in spite of the many difficulties encountered by both Editor and Managing Editor the results obtained have been most excellent.

The general make-up of the Journal shows careful planning, although the more frequent use of illustrations and cuts would add considerably to the attractiveness. The various departments, i. e., original articles, editorial, clinic, preventive medicine and miscellaneous are well balanced, while the growth in volume and the diversity of authors clearly indicate a real genuine interest on the part of the members.

A series of articles on the "The Business Side of the Physician's Life," which have but recently appeared, is a new venture tending to interest the members along an apparently much-needed line. The subject of Medical Economics could with advantage be stressed more in the Journal and it is with the hope that a new department may be developed that this venture was begun.

One of the outstanding features of the recent issues of the Journal is the marked increase and high quality of the advertising. This is a clear indication that the Journal stands high in the opinion of those interested in the commercial end of medicine.

Respectfully submitted,

OSCAR LOTZ,
Chairman, Publication Committee.

OSCAR LOTZ, M. D., *Chairman,*
120 Wisconsin Street,
Milwaukee, Wisconsin.

MY DEAR DR. LOTZ:

Enclosed you will please find report showing the earnings, cash receipts, expenses, disbursements and circulation of the Wisconsin Medical Journal during the fiscal year from August 1, 1921, to August 1, 1922.

In order to make the report more readily comparable to the preceding report, your attention is respectfully directed to the following data:

Total gross earnings from August 1 1920, to August 1, 1921	$5,373.31	
Dividend from Cooperative Medical Advertising Bureau	111.84	$5,485.15
Total gross earnings from August 1, 1921, to August 1, 1922	$5,996.85	
Dividend from Cooperative Medical Advertising Bureau	123.70	6,120.55
Total expense from August 1, 1920, to August 1, 1921	$10,636.63	$10,636.63
1921, to August 1, 1922	9,594.39	9,594.39
Total collections and money received from the State Medical Society during the period August 1, 1920, to August 1, 1921		$ 9,020.32
Total collections and money received from the State Medical Society during the period August 1, 1921, to August 1, 1922		11,092.83
Total uncollectible accounts charged off in the reports covering the periods from August 1, 1920, to August 1, 1922		None
Total number of copies forwarded to members of the State Medical Society from August 1, 1920, to August 1, 1921		23,359
Total number of copies forwarded to members of the State Medical Society from August 1, 1921, to August 1, 1922		23,371
Cost of each copy forwarded to members of the State Medical Society from August 1, 1920, to August 1, 1921		.22.6c
Cost of each copy forwarded to members of the State Medical Society from August 1, 1921, to August 1, 1922		.15.46c
Decrease in cost of each copy forwarded to members during the period covered by current report		.7.18c

From the above comparison, it is seen that the gross earnings during the period from August 1, 1921, to August 1, 1922, exceed those of the preceding year by $635.40, practically all of which is creditable to the advertising pages.

That the expense of publishing the Journal during the current year was $1,042.24 less than that of the preceding year, which reduction is principally accounted for as follows:

On April 1, 1922, there was a reduction of 15% in the cost of printing, which explains the decrease in the printing item amounting to $506.54.

There was a reduction in salaries amounting to $165.

There was a decrease in the cost of securing advertising contracts amounting to $327.72, and there was some reduction in the cost of mailing the Journal.

In conclusion, we regret to have to report that the reply to a recent request for a further material reduction in the cost of printing the Journal was not particularly encouraging.

Respectfully submitted,

J. P. MCMAHON,
Managing Editor.

THE WISCONSIN MEDICAL JOURNAL.

PUBLISHING COST STATEMENT.

August 1, 1921, to August 1, 1922.

Income from Publishing:			
Advertising Gross Charges	$5,901.23		
Less Discounts	140.22		
Net Income from Advertising		$5,761.01	
Subscription		95.62	
Cooperative Medical Advertising Bureau Surplus		123.70	
Total Income from Operation			$5,980.33
Publishing Expenses:			
Printing		$6,162.90	
Salaries		1,395.00	
Commissions for securing Advertising Contracts		1,534.76	
Cuts and Drawings		82.45	
Mailing Expenses		206.53	
Postage Editor's and Managing Editor's Offices		62.00	
Office Supplies and Expenses		32.25	
Misc. General Expenses, including Reprints	$16.00		
Vault Rent	45.00		
		118.50	9,594.39
			$3,614.06

To the Members of the State Medical Society:

This deficit of $3,614.06 represents the cost to the State Medical Society of circulating 23,371 copies of the Journal at about 15.46c per copy.

THE WISCONSIN MEDICAL JOURNAL.

FINANCIAL STATEMENT.

August 1, 1921. to August 1, 1922.

Cash Balance August 1, 1921		$ 361.46	
Receipts:			
State Medical Society	$5,500.00		
Advertising	5,286.65		
Subscription	85.95		
Cooperative Medical Advertising, Bureau Surplus	123.70		
Half Tones and Etchings	96.53	11,092.83	
			$11,454.29
Disbursements:			
Printing	$7,809.03		
Reprints (Basol)	16.00		
Salaries	1,410.00		
Commissions	1,073.26		
Mailing Expenses	223.21		
Postage Editor's Office	30.00		
Postage Managing Editor's Office	30.00		
Office Supplies and Expenses	32.52		
Miscellaneous General Expense	83.25		
Half Tones and Etenings	213.90		
Subscription Refund (Dr. Bennett)	2.33		10,923.50
Balance on Hand August 1, 1922.			$ 530.79

ASSETS.

Office Equipment	$ 176.63	
Cash in Bank	530.79	
Accounts Receivable	2,152.30	
Merchandise	42.12	
	$2,901.84	

LIABILITIES.

Accounts Payable	$1,032.50	
Credit Balances on Advertising Accounts	186.40	
	$1,218.90	
Assets exceed Liabilities		$1,682.94

REPORT OF THE EXECUTIVE COMMITTEE OF THE COUNCIL ON MEDICAL DEFENSE FOR THE YEAR ENDING JULY 31, 1922.

During the past year seventeen requests for the assistance of our defense system were received. In one instance two members were threatened by the same plaintiff. This leaves a net of sixteen cases, a slightly higher number than the average of previous years. Five of these cases have already been disposed of, three by dismissal and two by verdicts for the defendants, and most of the remaining ones will probably never come to trial.

It is encouraging to be able to state that during this period no judgment for damages was obtained. One award of $1,800, in a case tried in 1920, was sustained by the supreme court.

The following list shows the alleged causes of complaints or threats, and the present status of the cases so far as could be ascertained:

1. Infected finger. No action started.
2. Emergency operation; goiter. No action started.
3. Infected leg. Trial probable.
4. Cause not reported. Dismissed.
5. X-ray burns; two members involved. Possible trial.
6. Fractured leg. Possible trial.
7. Fractured leg. Won by defendant.
8. X-ray burns. Possible trial.
9. Infected leg. Possible trial.

10. Fractured arm. Dismissed.
11. X-ray burn. Won by defendant.
12. Eye injury; chloroform contact. Possible trial.
13. Abscess of neck. Possible trial.
14. Pelvic operation. Possible trial.
15. Kidney operation. Dismissed.
16. Shoulder injury. No action started.

None of the cases holding over from former years were brought to trial, and most of them probably have been or will be dropped.

More than half of the members involved stated that they carry no other protection.

The report on the financial aspects of the work will be presented by the Treasurer of the Association.

The success of this branch of the Association's activities is almost entirely due to the untiring interest and energetic work of our attorney, Mr. Willett M. Spooner, and we desire to express herewith our high appreciation of his services.

H. Reineking, *Secretary.*
Oscar Lotz, *Chairman.*

REPORT OF COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION AND COMMITTEE ON SCHOOL HYGIENE.

So-called public health propaganda is surfeiting the country. Medical and other quacks are filling the mails with claims for their cures for the sick. It is now high time that the organized medical profession take recognition of all of this sort of propaganda, and assume leadership in public health and other medical matters.

The medical profession is the only group of organized men possessed of the information required to properly teach the essentials of disease prevention. It is not enough to content ourselves with having this information. It is necessary, if we are to take the lead in the formulation of public health laws and advancing preventive medicine, that we be active in directing public opinion on health matters.

With these things in mind the Committee on Health and Public Instruction has been working with the special committee on School Hygiene appointed two years ago.

On February 16 the two committees met in Milwaukee. At that meeting the following business was transacted:

It was determined upon the motion of Dr. Sleyster that the county societies be requested to appoint a committee on health and public instruction to work with the state committee, one of the chief activities of the county committees to be the selection of men from their societies to address high schools, and other public gatherings in the community on health subjects.

The chief difficulties in securing men in the local societies to do this work are:

First, their fear of criticism by their associates.

Second, the inaccessibility to those living in rural districts of material needed to prepare a talk.

The criticism of publicity seeking is obviated if the society itself at each meeting selects two men who for the following month are to make at least one talk apiece; the local committee on health and public instruction to arrange the time and place for the addresses.

The preparation of material for health talks requires access to a library and material which is not always available in rural communities. For this reason the State Society Committee proposes to have fifteen or twenty addresses on as many subjects prepared and sent to the County Society Committees. These may be used or not as the speakers desire.

The School Hygiene Committee asked Dr. Sleyster to request Mr. Boyce, President of the State Teachers' Association, to appoint a committee to work with our committee on problems relating to the health of school children. In response to this request, Mr. Boyce named Mr. W. C. Sieker, Chairman, and Mr. Holt and Mr. Sanders as his associates on a committee to represent the State Teachers' Association.

A meeting of these two committees, the State Teachers' Association Committee and the State Medical Society's Committee, was held in joint session in Milwaukee in May. At this meeting Mr. Sieker was made Chairman and Dr. George Barth, Secretary of the General Committee. It was decided to call the joint committee the School Hygiene Committee of the State Medical and Teachers' Associations.

Dr. Barth was requested to look into the matter of having all State laws concerning the sanitation of school grounds and buildings codified and made available for convenient reference. The committee expects to learn what is now being done in the enforcement and application of these laws.

Mr. Sieker was requested to inquire into the course on health and disease now being given in the State Normal Schools. The committee expects to outline a course on disease prevention which will meet the requirements as we see them of those who are going out in the schools to teach.

The State Teachers' Association has taken much interest in our work. We have not only been able to secure a place on the program for their annual conference but have been able to have created in their association a special section dealing with the problems of school hygiene. For their meeting this year we have prepared a program which will occupy the whole of one afternoon. At least three papers will be presented on various aspects of school hygiene and the control of communicable diseases in schools.

The Preventive Medicine Section in the Journal has been continued.

The School Hygiene Committee is a special committee appointed by the Society two years ago. There is much uncompleted work for this committee to do. This committee therefore asks to be continued another year, after which it is thought that the work of the special

committee can be taken over by the regular Committee on Health and Public Instruction.

Respectfully,

W. D. Stovall, *Chairman.*

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

The rapidly increasing numbers of well qualified students, coupled with the limitation of enrollment, makes it difficult for many qualified students to secure admission to acceptable medical schools. To meet this situation the Council on Medical Education advises that schools who have placed their limit at extremely low figures, enlarge their facilities to admit larger classes.

In order to offset the rapid trend toward specialization the Council at its recent conference discussed the desirability of reorganizing the Medical Curriculum so as to include in it only such courses as are essential in the training of good general practitioners, leaving all training in the specialties to the postgraduate school. Henry S. Pritchett, President of the Carnegie Foundation, says: "The primary purpose of the medical school is to train practitioners for the medical profession. There are many by-products of this primary intention but these by-products will be greatest when the medical school conceives most clearly its fundamental purpose and bends its efforts most directly to it." It is necessary therefore that the medical school be centered in and about the hospital. The laboratories and class rooms used to teach that the sciences of anatomy, physiology, pathology, bacteriology and pharmacology should be grouped around the hospital. The fundamental sciences should be taught not as something separate but as a part of medical practice. Many believe that the study of clinical cases should begin with the first year of medical training and be carried on concomitantly with the study of the fundamental sciences.

In the report of the Reference Committee on Medical Education the following statement is made: "Your Committee shares the view of the Council that there are certain obstacles in the development of a medical school as the medical department of a University. It has become clear that a medical school cannot be developed along the same comparatively narrow lines as the ordinary department of science in the University. Medicine has become one of the greatest functions of modern civilization and has an intimate every-day contact with every individual of the community, and the proper plan of organization most recognize this fact and be sufficiently broad to maintain this relationship between the medical school, the medical profession and the community. The functions of medicine are performed by specially trained men and women—the medical profession. Any plan for the successful development of our medical schools must receive the active and enthusiastic cooperation of the medical profession."

The Committee on Education and Pedagogics, of which Dr. Hugh Cabot is chairman, presented a preliminary report on a new curriculum for medical schools. Opinions are unanimous that a decided revision of the curriculum is necessary.

Respectfully submitted,

Louis F. Jermain, M. D.
Chas. R. Bardeen, M. D.
Edward Evans, M. D.

REPORT OF THE COMMITTEE ON NECROLOGY.

To the House of Delegates:

The following is the report of the Committee on Necrology, including deaths reported, to September 1, 1922. Names of members of the State Medical Society are printed in bold face type:

Abbott, Charles N. ..... Chippewa Falls
Anderson, Harold B. ..... Beloit
Bailey, Mark A. ..... Fennimore
Ballard, John A. ..... Galesburg, Ill.
Beebe, C. A. ..... Fond du Lac
Bingham, Eugene ..... Elk Mound
Brindley, Roy ..... Mt. Hope
Cady, M. P. ..... Birnamwood
Colter, George F. ..... Marinette
Conkey, C. D. ..... Los Angeles, Calif.
Currens, J. R. ..... Manitowoc
Dake, A. J. ..... Viola
Drill, A. A. ..... Milwaukee
Field, F. T. ..... Elroy
Gobar, G. G. ..... Musceda
Guernsey, A. H. ..... Glendale, Calif.
Helm, E. C. ..... Beloit
Hinn, L. P. ..... Fond du Lac
Jacobs, E. M. ..... Manitowoc
Karsten, A. C. ..... Horicon
King, Oscar A. ..... Lake Geneva
Lester, W. A. ..... Onalaska
Linkman, Edwin J. ..... Milwaukee
Love, George E. ..... Waukesha
McKivitt, William E. ..... Milwaukee
Merritt, Walter ..... Seattle, Wash.
Metcalf, Arthur A. ..... Yakima, Wash.
Murphy, F. C. ..... Kenosha
O'Brien, Thomas J. ..... Eden
O'Malley, W. P. ..... Shakopee, Minn.
Park, W. H. ..... Glenwood City
Proudlock, J. L. ..... Danbury
Quackenbush, W. K. ..... Argyle
Reich, Hugo C. ..... Sheboygan
Robbins, H. ..... Kelly Lake
Schnug, Max ..... Durand
Shepard, Gilbert ..... Santa Cruz, Calif.
Stalker, H. J. ..... Kenosha
Sutherland, Arick ..... Brodhead

Wakefield, S. R.....West Salem
White, A. E.....Baggs, Wyo.
Wilkowski, C. W.....Chippewa Falls
Williams, R. L.....Wales
Winters, Oliver G.....Des Moines, Ia.

Respectfully submitted,

ROCK SLEYSTER, *Chairman.*

REPORT OF THE COMMITTEE FOR THE STUDY AND CONTROL OF CANCER.

To the House of Delegates, State Medical Society of Wisconsin:

Your committee on cancer begs leave to submit its report. During the year 1921-22 the movement inaugurated and sponsored by the National Society for the Control of Cancer has been satisfactorily carried on in this state. The committee has had the cooperation of many different forces, including those of several councilors, of the county societies, and of the health departments of the state and of the city of Milwaukee, and the public press. Outside of Milwaukee, the educational program has been very ably handled by Dr. Harper, with Dr. I. W. Thompson directly in charge. In Milwaukee Dr. Ruhland provided nightly lay lectures by different physicians during Cancer Week in the Public Museum building. We are greatly indebted to these two health organizations and desire to improve this opportunity to express our appreciation. It may be well to again call the society's attention to the fact that all efforts made have been purely educational and will continue to be such.

From many sources information comes that considerable numbers of early cases of malignancy have been brought to light by the cancer movement. This fall it is planned by your committee to repeat last year's Cancer Week. Without question even better results than were obtained last year will follow.

The committee on cancer is prepared to furnish slides for use in presenting the symptoms of cancer in different parts of the body. These slides can be secured by communicating with the chairman or the secretary of the committee. The committee has also assembled two sets of slides of fifty each for use in the presentation of the earlier suggestive symptoms of cancer before lay audiences. Members of the profession throughout the state are respectfully urged to solicit opportunities to present the subject to the laity and to continue presenting it until cancer shall have been discussed before the citizens of every city, village and hamlet in the state.

The committee's expenditures during the current year, all of which were disbursed by the chairman, were as follows:

Sept. 29, 1921, Lee Lash Co., slides	$ 6.80
Sept. 29, 1921, Postage on above slides	.33
Sept. 17, 1921, Telegram	.47
Sept. 30, 1921, McIntosh, slides	3.30
Sept. 30, 1921, Milwaukee Photo Material Co., boxes for slides	7.20
Oct. 5, 1921, Express on pamphlets	.61
Oct. 13, 1921, Express on pamphlets	.72
Oct. 19, 1921, Lee Lash Co., slides	6.15
Oct. 19, 1921, Postage on above slides	.26
Oct. 19, 1921, Express on pamphlets	1.07
Oct. 14, 1921, McIntosh	1.60
Postage on above	.10
Oct. 17, 1921, McIntosh, slides	3.50
Postage on above	.12
Oct. 28, 1921, McIntosh slides	49.32
Nov. 2, 1921, McIntosh slides	20.11
Nov. 10, 1921, Lee Lash Co., slides	16.25
Postage on above	.81
Nov. 12, 1921, Milwaukee Photo Material Co., slides boxes	3.00
Dec. 1, 1921, Milwaukee Photo Material Co., slides boxes	8.00
Dec. 8, 1921, McIntosh slides	5.57
Postage on above	.12
Jan. 12, 1922, Herman Schapiro, slides	8.00
Jan. 12, 1922, Lee Lash, slides	2.48
Mar. 1, 1922, Telephone, Dr. Simons, Chicago	.85
Mar. 6, 1922, Telephone, Dr. Olson, Madison	.80
April 19, 1922, Dr. B. H. Schlomovitz, disbursement for stenographer, etc., in preparing the cancer symposium for publication in the Journal	18.75
Total	$166.29

In addition to the above expenditures, the committee ordered 500 extra copies of the May issue of the Wisconsin Medical Journal, containing abstract reports of the cancer symposium, delivered before the Milwaukee County Medical Society, the cost of which was $44, and the bill for which was forwarded directly to S. S. Hall, Treasurer, for payment direct.

In conclusion, we urge the secretaries of the county societies to include in their respective yearly programs at least one symposium on cancer which should include demonstrations of early clinical cases.

Respectfully submitted,

WALTER K. GRAY,

Secretary, Cancer Committee.

REPORT OF ADVISORY COMMITTEE ON HOSPITALS.

During the year St. Mary's Hospital of Milwaukee, St. Elizabeth's Hospital of Appleton, and the La Crosse Lutheran Hospital of La Crosse have made application for recognition as suitable hospitals for the general training of internes. The Methodist Hospital at Madison has made application for recognition as a special surgical hospital for the surgical training of internes.

Hospital information blanks have been filled out by these institutions and forwarded to the Council on Medical Education and Hospitals. Final action by the Council has placed St. Mary's Hospital, Milwaukee, on the approved list. Action on the remainder is pending.

The Council strongly recommends that hospital interneship be required by medical colleges and the State Boards as an essential, respectively, for the degree of Doctor of Medicine and for the license to practice.

The year of interneship, then, must be considered the fifth year of the medical curriculum under the control and direction of the medical school, and hospitals desiring internes must be willing to cooperate with the Medical school to the end that the work of the interne year be genuinely educational and that supervised clinical instruction is established.

Well grounded complaint has frequently been made by internes regarding the lack of interest of the hospital staff in the training of them. Hospital staffs must adapt themselves to the new relationship between hospital and medical school. They must realize that the interne is a student who is entitled to educational effort on their part and can no longer be considered as one who is only to give service and receive little or nothing by way of supervised clinical training in return.

Respectfully submitted,

Louis F. Jermain, M. D.

L. Fazen, M. D.

Joseph Lettenberger, M. D.

G. V. R. Lyman, M. D.

Frank S. Wiley, M. D.

REPORT OF DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

To the House of Delegates of the Wisconsin State Medical Society:

Gentlemen:

Your Society, represented by your Delegates, took part, at St. Louis, in one of the most important sessions of the House of Delegates to the American Medical Association that has ever been convened. Questions of the greatest importance to the medical profession of this country were brought before that governing body of the major association, that were in their very nature vital to the policy of the constituent societies, and that had a direct bearing upon the personal welfare of every individual practitioner of medicine in the United States. Your own representatives believe these questions were acted upon and decided from the standpoint of the highest form of constructive legislation, and with a view to the establishment of a progressive policy, rather than of one that should represent only the fads and special personal predelictions of a limited few within the profession.

Your Society was represented by the full board of Delegates appointed by your Society, and all of your representatives were present, and all took active part in the deliberations of the House of Delegates of the major Society at all of its sessions.

Your Society was represented upon two of the important committees, and we hope and believe that the action of these committees, and their recommendations, has met with your approval.

It is quite unnecessary that there should be made a complete repetition of the activities of the House of Delegates of the American Medical Association, for that is to be found detailed in full in the Journal of the Association. It only remains for your representatives to recommend most earnestly that every member of the State Society read those proceedings and thus keep in touch with the activities of the parent Association.

It is with great satisfaction that your representatives report the election of one of their number to the office—by unanimous vote of the House of Delegates—of Vice-Speaker of the House.

This report is most respectfully submitted for your Board of Delegates by its chairman.

H. M. Brown, *Chairman.*

REPORT OF DELEGATE TO THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.

The annual Congress on Medical Education, Medical Licensure, Public Health and Hospitals was held in Chicago, March 6-10.

The discussion centered mainly around problems resulting from recent improvement in medical education. Some of these problems were stated as follows: 1. The increased cost of medical education. 2. Limitation of enrollment of students. 3. The trend toward specialization in medicine. 4. The increasing development of group clinics. 5. The growing demand for teaching hospitals. 6. The increasing demand for internes. 7. The shortage of physicians in smaller towns and rural communities.

Regarding the cost of medical education it was shown that in the Class A schools of this country the cost per student per year is four times greater than the income from student fees. In five years the average expenditure has increased 56%, while the tuition has increased only 24%.

Forty-seven medical schools are now limiting the number of students admitted to each class, the limit varying from 20 to 40 students in the smaller and from 80 to 170 students in the larger colleges.

Improved qualifications of present-day graduates, the rapidly increasing number of hospitals and the campaigns to improve hospital service, all have increased greatly the demand for internes so that at present many hospitals are without or with at most an insufficient number of internes.

Many reasons were given for the increasing shortage

of physicians in rural communities. The most certain method of insuring a supply of competent physicians for these communities was said to be the establishment of a community hospital in every center of population where the country doctor may enjoy modern advantages in the diagnosis and treatment of disease.

A report on "Undergraduate Medical Curriculum," on "A New Curriculum," on "Function of the Hospital in Medical Education," and a paper on "Liberalization in Medical Education" were widely discussed.

Respectfully submitted,

LOUIS F. JERMAIN.

REPORT OF DELEGATE TO COUNCIL ON HEALTH AND PUBLIC INSTRUCTION.

To the Members of the House of Delegates of the State Medical Society of Wisconsin:

Your delegate to the annual congress on Medical Education, Licensure, Public Health and Hospitals of the American Medical Association, and to whom had been assigned the section on Public Health and Education, regrets that it was impossible for him to attend the meeting and cannot make a report from his own observations. The transactions of that congress, however, have been published in the Journal of the A. M. A. in the numbers for March 11, 18, 25, and April 1, 1922—the section on Public Health and Education in the number for March 25, page 898, etc. Valuable suggestions are contained in those pages and your delegate would advise every member of this Society to study them carefully.

Respectfully submitted,

G. WINDESHEIM.

DR. OTHO FIEDLER, Sheboygan: I move the adoption of the reports as published in the handbook.

Motion seconded.

Motion put and carried.

DR. EDWARD EVANS, La Crosse: You will find the report of the Chairman of the Council on page 35 of the handbook. When the routine business is over, with your permission, I want to bring before you a few points that I believe should be brought by the Chairman of the Council and the House of Delegates at this time.

REPORT OF THE CHAIRMAN OF THE COUNCIL.

The annual meeting of the Council was held at the University Club, Milwaukee, Monday, January 30.

The usual routine business was cared for. It was unanimously decided to hold the 1922 meeting at Green Lake, Wisconsin, September 6, 7, 8.

The following officers were reelected: Chairman, Edward Evans; Secretary, Rock Sleyster; Treasurer, Sidney S. Hall.

It was moved and carried that the Treasurer furnish each member of the Council with a typewritten report of the financial condition of the Society, according to the current year.

It was also moved and carried that the President, Chairman of the Council, and the Secretary request from the Attorney-General a ruling as to the legality of appointing physicians to the State Board of Medical Examiners, except from lists submitted according to law.

Dr. George Ruhland, of the Committee on Public Policy and Legislation, appeared before the Council, and was instructed by the Council to proceed during the year with a draft of a new Medical Practice Act, and he was authorized to incur any necessary expense in connection with this work.

EDWARD EVANS, *Chairman.*

DR. EDWARD EVANS, La Crosse: If you will turn to the handbook, you will see in the second to the last paragraph of the report that at our meeting in January, it was moved and carried that the president, chairman of the council, and secretary, request from the Attorney General a ruling as to the legality of appointing physicians to the State Board of Medical Examiners, except from lists submitted according to law.

I presume you are aware of the fact that the Governor went outside of those lists and appointed a man that the council thought was appointed illegally, and we have had that under consideration for some time. Before I left home, Dr. Lotz said, in view of the fact he could not be here today, he thought I ought to present before the House of Delegates these communications, one of them a letter from Mr. Spooner to Lotz, and the other one from the Attorney General. Mr. Spooner wrote him under date of August 21st:

"My dear Dr. Lotz: On the petition which I drew up for you requesting the Attorney General, acting for the state of Wisconsin, to take steps to oust Cunningham from the Board of Medical Examiners, I wish to say that I have received a letter from the Attorney General's office, advising that that department will undertake to bring ouster proceedings. I shall, as it may be deemed desirable, cooperate with that department in the presentation of the case, as they have suggested."

This is the Attorney General's letter, under date of August 18th, to Dr. Lotz: "Upon the original and amended petition of Dr. Oscar Lotz, showing that he was lawfully appointed a member of the State Board of Medical Examiners by the Governor of Wisconsin, on the 15th day of June, 1917, and that a pretended appointment of Dr. Robert B. Cunningham, who was under the law ineligible for appointment, has been made in his stead, and pray the Attorney General to bring an action to oust the said Robert B. Cunningham from his appointment on the board of medical examiners, I have decided to grant the petition as amended and bring such action. I do this, because on June 10th, 1922, this department rendered an opinion to the effect that the appointment of Dr. Cunningham was illegal and void, and that the member, Dr. Lotz, supposed to be succeeded by him, holds office until his resignation and until his successor has been legally appointed. It seems to me

this opinion disqualifies this office from defending any action that Dr. Lotz may bring to have Dr. Cunningham ousted from his office, and if we refused to bring the action it would result in both the state officer, Dr. Lotz, and the defendant, being required to retain counsel, either at their own expense or at the expense of the state. It seems to me that the Attorney General's office should participate in this suit and thus save unnecessary expense, since we are so thoroughly of the opinion that Dr. Cunningham's pretended appointment was illegal, the position we should take should be consistent with the opinion of this department heretofore rendered."

Very truly yours,
William J. Morgan,
Attorney General."

Lotz asked me to bring these before you. I think you are all rather familiar with the facts. Through our secretary and through some communications from myself to the Governor, we tried to have him see the light, and get him to understand that he had made an illegal appointment, but he could not see it that way, and he persists in saying that Dr. Cunningham is the legal member of the Board. The law says that he shall appoint from ten names submitted to him, and if these ten names are not submitted, then he may make a selection through names previously submitted, and he takes it that that "may"—I tried to point out to him that if he may appoint from that, then the implication was that he may not appoint from any other place, but he could not see it that way. The Attorney General is going to take it up to the Supreme Court, and we will get our decision without further question we hope.

I wanted to present to you today, supplementary to the report published in the hand book, a few things that I think ought to be considered at this time At a previous meeting of the council it was decided to take no active part in legislation at Madison during the past session of the legislature, beyond whatever might be done by our legislative committee. The Committee on Legislation did some very good work. They are, however, always hampered by the difficulty of giving the time that should be given to it without proper recompense. Early in the session it looked as though the chiropractic bill would pass without trouble, but underground lobbying changed many votes, and the bill was defeated. I believe this was unfortunate. The bill as framed should have disarmed any suspicion that it was legislation for the medical profession, as we only asked that the practicing chiropractics should have the same primary education that medical men have. I believe it is incumbent on us as a society to give some support, especially in a financial way, to our legislative committee, in whatever directions we may give them, and proceeding before the assembly we should be willing to back them up financially, and give them such aid as is necessary, but it means, above all, just as the chairman of that committee said a while ago, that each of us must be working all the time, not merely during the sessions of the assembly; each member of the society should be in touch with his representative in the assembly and senate all the time. The time is ripe, when it is necessary for the State Medical Society to have much higher dues than we have. Now, the minimum certainly should not be less than $10 a year. I, personally, would prefer to see it $1 a month. On inquiry the other evening, I learned that the carpenters and bricklayers and other unions pay $1 a month to their union, and I am given to understand that those dues are about to be raised. Surely the medical profession, with so much more at stake, and a profession, not a trade, can afford to pay as much as the members of the unions pay. If you say that this means loss of membership, I would say, we are over-organized, better a small membership live and active, than an over-sized indifferent membership,

Is it advisable to continue our protection as a society against malpractice suits? While I favored the State Society carrying insurance when we instituted it some years ago, I now believe that it is neither wise nor fair to the average member. Those who feel that they need insurance against malpractice suits are carrying it in insurance companies in almost every case, and it is not fair to ask the general practitioner to pay two or three dollars a year when he is practically never threatened with a malpractice suit, to protect those of us who are constantly threatened.

The time has arrived when we should have a full time executive secretary, and I purposely use the term "executive secretary", not in any criticism of our present one. Our present secretary accepted the position only on the understanding we would do this as soon as possible. The time has come when his private duties call for more than all his time, and it is not fair to ask him to sacrifice private duties for our work. $50 a month to care for the mass of correspondence involved in a membership of over 1800 members, besides conducting the Journal for another $50, is absurd. The Journal is ours, not the Secretary's. It is up to us to make it a real Journal. This can be done only by making it a matter of personal interest professionally, and especially financially for a full time secretary. I think the time to do this is now. I have been talking to the Secretary recently, and he has more than he can do. He has a sanitarium that requires a great deal more than all his time to properly look after it, and we cannot expect him to go on and do this longer.

Those of us who pay income tax find that the state allows us no traveling or other expenses for postgraduate work outside of the state of Wisconsin. This is not only absurd, but needless. If we are to increase our income, it is only by perfecting ourselves in our profession by postgraduate study. Some sort of steps, I feel, should be taken to remedy this, if possible. The merchant when he goes to New York, or other purchasing centers, is allowed his expenses but we are not allowed it for professional study. This is not fair to the medical profession. Neither is it fair that the man earning an income by his own daily personal efforts should be taxed at the same rate as a man who has his income from inheritance or previous accumulation. Would it not be wise for us to attempt, if possible, to have this feature

of the income tax bill altered. I know that members of the bar, standing high in our state, and at least some of the judges of the Supreme Court, feel that this mode of taxation is unfair.

As chairman of your council I have thought to bring those matters before you for discussion at this time. Some of them are very urgent. The securing of a full-time secretary-editor to take charge of the affairs of the Society and the Journal must be attended to now. That, I think, is not going to mean such a great deal more money. Our secretary is getting $100 a month. He tells me that the business manager of the Journal is probably getting in commissions something over $1500, so that would go a good way toward paying a secretary. And if we had a man who could devote all his time to the Journal and get a larger class of advertising, as could be done by a man who would be financially interested in it, it would not be a great sacrifice or a greatly increased expense, and I feel at this time we must get more money if we are going to run a society. We must get the means by which we can help our legislative committee, if we make up our mind as the House of Delegates that we want to push medical legislation. And these points, I believe, should be settled at this time.

Dr. Joseph Smith, Wausau: I should like to ask a question at this time regarding the income tax proposition. I should like to know whether or not it is a ruling of the Tax Commission of this state, or whether it is part of the law, that the money expended in attending meetings for postgraduate purposes out of the state is not allowed as a deduction?

Dr. Edward Evans, La Crosse: I really don't know, but I know it is not allowed. I think it is only a ruling.

Dr. H. E. Dearholt, Milwaukee: That must be a ruling: that would not be in the law.

Dr. Joseph Smith, Wausau: If it is a ruling, it seems to me that the only way would be to have our Committee on Public Policy and Legislation take it up with the Tax Commission. That is a body that is very easily reached. At least it seems that would be the first thing to do.

President: Do you make that as a motion, doctor?

Dr. Joseph Smith, of Wausau: I make that as a motion, that our Committee on Public Policy and Legislation be asked to take this matter up with the Tax Commission and see what their view is on that question.

Motion seconded.

Dr. M. R. Wilkinson, Oconomowoc: Pardon me. The recommendation referring to engaging of a secretary I think should be left to the Resolution Committee, to be brought before the General Assembly for their instruction, that they may thoroughly understand it.

Dr. Otho Fiedler, Sheboygan: A resolution to that effect then would be drawn for submission to the committee.

Secretary Sleyster: I do not think, gentlemen, it is necessary to present this in resolution form, and I think you are going to have a good deal of difficulty in bringing it before the general assembly, because we have such a long program. We haven't time to give it consideration in the general assembly. I think it is something for the House of Delegates. This is the body representing the general membership, to take legislative action on any organization matter, and it would seem to me that the best way would be to refer these matters to a committee for consideration, and let them report back tonight. I think the next best consideration and recommendation the committee could make, if they feel these are too important steps to take without more consideration, and if they feel that the matter should be submitted to the membership, would be to have a referendum vote on it, let it be stated to the membership by circular mailed to them, and have a referendum vote of the entire society, rather than of the membership who attended the meeting. That would give every member of the society an opportunity to decide whether he wants his dues raised to accomplish these purposes.

Dr. M. R. Wilkinson, Oconomowoc: If the secretary thinks it is going to interfere with the general program and that there will not be time to consider it in the general assembly, I will withdraw that motion.

Secretary Sleyster: Change that, Dr. Wilkinson, so it will be to report back to the House of Delegates tonight.

Dr. M. R. Wilkinson, Oconomowoc: I will change it then, to refer it to the Resolutions Committee to report back tonight to the House of Delegates

Motion seconded.

President: It is moved and seconded that this matter be referred to the Committee on Resolutions to report at a future meeting of the House of Delegates.

Motion put and unanimously carried.

President: The next order of business is the report of the councillors. First District, Dr. Wilkinson.

Dr. M. R. Wilkinson, Oconomowoc: Mr. President, I beg leave to report that things in the First District have gone on very nicely. We have had some very good meetings, and one district meeting recently held at which we had motion pictures and a talk by Dr. Davis, of Milwaukee, later a banquet and address by Dr. Ehle, of Chicago. The membership remains practically the same as heretofore. Dodge county last year had 30 members, this year 27 paid. There are three delinquents.

Jefferson county has a falling off of three, 30 last year and 27 this year; Washington county, 12 last year and 10 this year, a loss of 2. Waukesha county 44 last year, 45 this year, a gain of one, one delinquent, who is a physician not at present in practice in the county and who is doing state work.

President: The Second District, Dr. G. Windesheim, of Kenosha.

Dr. G. Windesheim, Kenosha: Mr. President and Members of the House of Delegates: Perhaps you will remember that last year I did not have a very good report from the Second District. This year is very much better. Walworth county, has revived, and with a full membership. I have the report of the Secretary of Walworth county, and 100% of the eligible physicians in Walworth county are members of the county society, they have made a gain of 12 over last year; the member-

ship now is 35. Racine county, as usual, is holding its own, or rather doing better than holding its own, a gain of two over last year, although there is one delinquent. If that delinquent comes in there will be a gain of 3.

Kenosha county, according to the State Secretary's record, has a loss of 5, membership 36, compared to 41 of last year, but the secretary tells me that all have paid up today but one, so that would only be a loss of one.

Last year we started again to revive the district society meetings. The first one was held at Williams Bay, and this summer the meeting was held at Racine, where the members were the guests of Mr. William Horlick, of the Horlick Malted Milk fame. He was host to the society, and there were altogether some 98 people present. The meeting was very well attended indeed, was a good meeting from a scientific standpoint especially. There was a discussion of radium, by Dr. Mummung, Dr. Foerster, Dr. G. V. I. Brown, of Milwaukee. In the future I am in hopes we will continue to report nothing but progress from the Second District.

PRESIDENT: Third District, Dr. E. B. Brown, Beloit.

Fourth District, Dr. W. Cunningham, Platteville.

Fifth District, Dr. W. F. Zierath, Sheboygan.

Sixth District, Dr. F. G. Connell, Oshkosh. None present.

The Seventh District, Dr. Edward Evans, La Crosse.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, there isn't much to report on the Seventh District. We have the same membership as we had last year. As to the meetings, I hope the rest of the state are not as lacking in scientific vim and push as we are in the Seventh District. It seems to me that our meetings are of very little value. The meetings I have seen have reminded me of old Dr. Malcolm's expression, "if you feed the brutes you can get them out." A big supper will get them to the meeting. We endeavored to have a district meeting and get up one like Smith had in his district. We made some effort, but had only a very poor attendance, about 20 members out of a membership of 123. The meeting was held in La Crosse, where we have a membership of 54, and did not have a meeting representing 50% of our society from the whole district. As far as the membership is concerned, it is just as it was. Otherwise the district is as usual.

PRESIDENT: Eighth District, Dr. Redelings. Not present.

Ninth District, Dr. Joseph Smith, Wausau.

DR. JOSEPH SMITH, Wausau: Mr. President, the Ninth District shows a loss of four for the district as a whole. There are three counties in the district. We show a gain of 4, although we show a loss in membership. There are 20 delinquents. In one or two counties in the district it is very difficult to get any reaction from the secretary. He will not answer letters or communications of any kind, and it is an extremely difficult matter to get results from that particular county. The other counties are all reasonably active. If any of you know any way to inject anything like the elixir of life into a county secretary, I should like the recipe very much. We certainly have one dead one in our district.

We have our regular meetings. The Councillor District Society holds four meetings a year, as it has for a number of years, and they are usually quite well attended. We have an attendance varying from 35 to 65 out of a total membership of 157 this year. Our meetings are usually held at one or another of the larger cities in the district, and we endeavor to hold them at a time of the year when it is possible for the members to drive to the meeting. We are usually able to have three of the meetings in the months of the year when the roads are passable for automobiles, and one meeting is usually held in mid-winter. We endeavor to hold that meeting at a point where the best railroad connections are to be had, so that our attendance at these meetings is usually quite good.

In regard to the matter of legislative committees, on the recommendation of the chairman of our committee of Public Policy and Legislation, I wrote all of our county secretaries, and got rather prompt responses from all of them, except the county before mentioned. Each county in the district appointed a legislative committee and they are ready for business, except this county where the Secretary never responds to anything. So I think we are ready to do our share in that part of the campaign up there.

PRESIDENT: Tenth District, R. E. Mitchell, Eau Claire. Not present.

Eleventh District, J. M. Dodd, Ashland. Not Present.

Twelfth District, H. E. Dearholt, Milwaukee.

DR. H. E. DEARHOLT, Milwaukee: Mr. Chairman and Gentlemen, the Twelfth District, as you all know, is only the one county medical society of Milwaukee. There were 454 members last year and 448 this year, a falling off of six, with a pretty high percentage of delinquency, 61 delinquents, about 16%. This, however, I think is just a matter of progressive deflection, and probably has changed materially by now.

SECRETARY ROCK SLYSTER, presented his report as follows:

REPORT OF THE SECRETARY FOR THE PERIOD FROM JANUARY 1 TO SEPTEMBER 1, 1922

To the House of Delegates:

The following report is submitted for the year 1921-1922.

MEMBERSHIP.

The total membership of the fifty-four constituent county societies, according to the records in the Secretary's office on December 31, 1921, was 1898. During 1922, sixty 1921 delinquents have been reinstated, so that a total of 1958 Wisconsin physicians paid 1921 memberships, the largest total obtained in the history of the Society.

On September 1st, 1922, a total of 1832 had paid 1922 memberships, as compared with 1770 on September 1st of last year, a gain of sixty-two members in the number reported for a similar period. Complete membership tables are attached which show 1921 memberships as of December 31, and 1922 memberships as of Sep-

tember 1, with losses and gains, delinquents, deaths and new members for each county society, and for each district in the state.

In spite of the raise in dues two years ago our membership has been steadily gaining and from an organization standpoint conditions are very satisfactory indeed, and we continue to carry honors as one of the three or four best organized states in the union.

The Handbook mailed to you contains the reports of the various committees and tells of the activities of the Society. These reports will or have been read before this session of the House, and do not require other attention. There are, however, a few matters of special importance on which I wish to touch briefly, and I would suggest the reference of this report together with special recommendations by other officers, to a reference committee to be appointed by the President, who may consider these matters and report back to a future meeting of the House with their recommendations.

STATE MEDICAL SOCIETY OF WISCONSIN.

MEMBERSHIP REPORT.

September 1, 1922.

County Society	Dec. 31, 1921	Sept. 1, 1922	Loss — + Gain	Delinquent	Removals	Deaths	New Members
1st District—							
Dodge	30	27	—3	3	0	1	0
Jefferson	30	27	—3	7	2	0	3
Washington	13	10	—3	4	0	0	0
Waukesha	44	45	+1	1	1	2	2
	117	109	—8	15	3	3	5
2nd District—							
Kenosha	41	36	—5	5	1	1	1
Racine	45	47	+2	1	0	0	2
Walworth	23	35	+12	0	1	0	10
	109	118	+8	6	2	1	13
3rd District—							
Columbia	28	17	—11	17	0	0	1
Dane	110	109	—1	15	2	0	5
Green	20	17	—3	1	1	0	0
Rock	79	70	—9	13	1	0	6
Sauk	31	23	—8	8	1	0	1
	268	236	—32	54	5	0	13
4th District—							
Crawford	5	10	+5	1	0	0	6
Grant	40	39	—1	0	0	2	1
Iowa	13	12	—1	2	0	0	0
Lafayette	13	15	+2	3	0	0	1
Richland	16	12	—4	1	1	0	0
	87	88	+1	7	1	2	8
5th District—							
Calumet	15	12	—3	4	1	0	1
Manitowoc	28	29	+1	2	0	2	2
Ozaukee	10	10	0	1	0	0	1
Sheboygan	45	40	—5	7	0	1	1
	98	91	—7	14	1	3	5
6th District							
Brown-Kewaunee	45	42	—3	9	0	0	4
Door	7	3	—4	4	0	0	0
Fond du Lac	51	45	—6	1	7	0	2
Outagamic	37	38	+1	2	1	1	5
Winnebago	54	50	—4	6	1	0	0
	194	178	—16	22	9	1	11
7th District—							
Juneau	9	9	0	0	1	0	0
La Crosse	52	54	+2	2	2	1	1
Monroe	21	21	0	0	0	0	0
Trempealeau J. B.	26	27	+1	1	0	0	1
Vernon	15	12	—3	3	0	0	0
	123	123	0	6	3	1	2
8th District—							
Marinette—F	19	18	—1	3	1	0	2
Oconto	13	12	—1	1	0	1	0
Shawano	17	12	—5	6	0	1	1
	49	42	—7	10	1	2	3
9th District—							
Clark	14	17	+3	1	0	0	3
Green Lake W. A.	16	21	+5	2	0	0	7
Lincoln	16	13	—3	3	0	0	0
Marathon	42	38	—4	5	2	0	2
Portage	21	18	—3	3	1	0	0
Waupaca	28	25	—3	6	2	0	3
Wood	24	25	+1	0	1	0	1
	161	157	—4	20	6	0	16
10th District—							
Barron P. W. S. B.	39	40	+1	3	1	0	4
Chippewa	17	15	—2	3	1	1	1
Dunn-Pepin	10	20	+10	2	1	2	2
Eau Claire	38	43	+5	1	0	0	5
Pierce	6	6	0	1	0	0	0
Rusk	9	8	—1	1	1	0	0
St. Croix	15	12	—3	3	1	0	0
	134	144	+10	14	5	3	12
11th District—							
Ashland B. I.	22	23	+3	2	0	0	3
Douglas	39	36	—3	4	0	0	0
Langlade	14	14	0	0	0	0	0
Oneida F. V.	13	10	—3	4	0	0	0
Price-Taylor	16	15	—1	2	1	0	1
	104	98	—4	12	1	0	4

12th District—							
Milwaukee	454	448	—6	61	3	2	16
Totals	1898	1832	—65	241	40	18	108

DIGEST OF TABLES.

At this time three districts show a gain, the 2nd district showing a gain of eight members, the 4th district one member, and the 10th district ten members. All other districts show a loss, the greatest loss being in the third district with a loss of thirty-two; then the 6th with a loss of sixteen; the 1st, eight; the 5th and 8th, seven; the 12th, six; the 9th and 11th, four; the 7th district shows neither loss nor gain.

The 12th district has sixty-one delinquents; the 3rd, fifty-four; the 6th, twenty-two; the 9th, twenty; the 1st, fifteen; the 5th and 10th, fourteen; the 11th, twelve; the 8th, ten; the 4th, seven; and the 2nd and 7th, six.

The 9th and 12th districts have sixteen new members; the 2nd and 3rd, thirteen; the 10th, twelve; the 6th, eleven; the 4th, eight; the 1st and 5th, five; the 11th, four; the 8th, three; and the 7th, two.

Sixteen counties show a gain; thirty-three show a loss and five remain the same.

Walworth county shows a gain of twelve; Dunn-Pepin, ten; Crawford, Green Lake W. A., and Eau Claire, five; Clark and Ashland B. I., three; Racine, Lafayette, and La Crosse, two; and Waukesha, Manitowoc, Outagamie, Trempealeau J. B., Wood, and Barron P. W. S. B., all show a gain of one each.

Columbia county shows the greatest loss, with a loss of 11; Rock shows a loss of nine; Sauk, eight; Fond du Lac and Milwaukee, six each; Kenosha, Shawano and Sheboygan, five; Richland, Door, Winnebago, and Marathon, four; Dodge, Jefferson, Washington, Green, Calumet, Brown-Kewaunee, Vernon, Lincoln, Portage, Waupaca, St. Croix, Douglas, and Oneida F. V., three; Chippewa, two; and Dane, Grant, Iowa, Marinette F., Oconto, Rusk and Price-Taylor, one.

Walworth, Grant, Juneau, Monroe, Wood and Langlade counties have no delinquents. Milwaukee county has sixty-one; Columbia, seventeen; Dane, fifteen; Rock, thirteen; Brown-Kewaunee, nine; Sauk, eight; Jefferson and Sheboygan, seven; Winnebago, Shawano and Waupaca, six; Kenosha and Marathon, five; Washington, Calumet, Door, Douglas and Oneida F. V., four; Dodge, Lafayette, Vernon, Marinette F., Lincoln, Portage, Barron P. W. S. B., Chippewa and St. Croix, three; Iowa, Manitowoc, Outagamie, La Crosse, Green Lake W. A., Dunn-Pepin, Ashland B. I., and Price-Taylor, two; and Waukesha, Racine, Green, Crawford, Richland, Ozaukee, Fond du Lac, Trempealeau J. B., Oconto, Clark, Eau Claire, Pierce and Rusk, one each.

Thirty-five counties report one hundred and eight new members. Milwaukee leads with sixteen; then Walworth with ten; Green Lake W. A., seven; Rock and Crawford, six; Dane, Outagamie and Eau Claire, five; Brown-Kewaunee and Barron P. W. S. B., four; Jefferson, Clark, Waupaca and Ashland B. I., three; Waukesha, Racine, Manitowoc, Fond du Lac, Marinette F., Marathon and Dunn-Pepin, two; and Kenosha, Columbia, Sauk, Grant, Lafayette, Calumet, Ozaukee, Sheboygan, La Crosse, Trempealeau J. B., Shawano, Wood, Chippewa and Price-Taylor each report one.

Total membership, Dec. 31, 1919	1861
Total membership Dec. 31, 1920	1894
Total membership Sept. 1, 1921	1770
Total membership Sept. 1, 1922	1832
Delinquents, Sept. 1, 1921	232
Delinquents, Sept. 1, 1922	241
New Members, Sept. 1, 1921	143
New Members, Sept. 1, 1922	108

FINANCES.

The work of the Organization has been limited and hampered, and often the welfare of the entire profession of the state jeopardized because of an income utterly inadequate to the needs of the Society and the lack of a full-time person charged with the responsibility of the Society's affairs.

When one considers the lavish expenditures of cult practitioners, Christian Scientists, labor unions, etc., for safeguarding and promoting their welfare, the pitifully low assessment of six dollars a year made on our members is truly ridiculous. It costs a man twice this amount to belong to the "hod-carriers union." Activities can not be maintained without paying for them, nor can service be expected or demanded at the sacrifice of personal affairs; this is unreasonable and unfair.

I shall soon have rounded out a ten years' service as Secretary of your Organization. It has been a strenuous era for it has included the war period; the period of sect medicine development; and the period of post-war adjustments. It has been an experience which I shall always treasure as one of the richest in my life, and what little part I have played in the development of the organization during that period has been a pleasure for which I am deeply indebted to you. No one realizes better than I, however, the shortcomings of my service and the great amount of good which might have been accomplished, had I been able to devote to the work the time which it actually required.

It is my belief that the time has come when a full-time man should be employed by this Organization, establish an office in Milwaukee in charge of an executive secretary, who should also have the business management of the Journal, and should look after the legislative and other interests of the Organization.

If a medical man fitted for the position could be secured he should also edit the Journal, and carry on in his office all of the activities of the Society. If a medical man could not be secured, a layman could perform this work as is done in Ohio and Virginia, and a medical man serve as Secretary without pay, with another medical man acting as Editor of the scientific section of the Journal.

A full-time man of this type would be able to increase the income of the Society through a better attention to

its advertising pages. This, however, would not take care of the additional expense, but I believe such a scheme could be financed by raising the dues to ten dollars per year, and this raise in dues would also provide an adequate fund for the regular attendance of the Executive Secretary or some other paid representative of the Society at the legislative sessions at Madison.

The activities of the Society should be extended; the interests of the profession should be safeguarded from unfair legislative enactment; and the Journal and service of the Secretary's office to the members should be improved. A raise of fees to ten dollars per year would care for these improvements in our Organization work, and would, I believe, result in no serious loss in membership. If it is worth six dollars a year at present to belong to the Society, it would surely be worth an increase of four dollars a year to improve its efficiency as such an arrangement would.

It is my recommendation that the House of Delegates refer this matter to the Council with instructions to effect the best arrangement possible along these lines. It will, however, be necessary for the House at this session to fix any increase in dues for the coming year.

STATE BOARD OF MEDICAL EXAMINERS.

Last Fall we were surprised to note the appointment by Governor Blaine of Dr. R. B. Cunningham of Cadott to a membership on the State Board of Medical Examiners, to succeed Dr. Oscar Lotz of Milwaukee. Dr. Cunningham's name had not been submitted to the Governor by the State Medical Society, nor had the Governor requested from any of the officers of the Organization a list of names from which to make an appointment.

Section 1435 of the statutes provides:

"The governor shall appoint a board of medical examiners to be known as the 'Wisconsin State Board of Medical Examiners,' consisting of eight members. *Such appointments shall be made* from separate lists presented to him every second year, one list of ten names presented by the Wisconsin State Medical Society, one list of ten names presented by the homeopathic medical society of the state of Wisconsin, one list of ten names presented by the Wisconsin state eclectic medical society, and one list of five names presented by the Wisconsin state osteopathic association. In case any of said societies or associations *fail to present such list of names*, the governor *may fill vacancies* in the board by appointment *from the last list filed* by such association or society previous to the occurrence of such vacancy. The appointment of each member of said board shall be for the term of four years *and until his successor is appointed and qualified;* * * *. Three members of said board shall be allopathic, two shall be homeopathic, two eclectic and one osteopathic, * * *."

The matter was called to the attention of the Governor by your Secretary, but the Governor held he had not exceeded his authority in appointing Dr. Cunningham. The matter was brought to the attention of the Council at the January meeting. The Council thought the matter of sufficient importance to instruct the President and Secretary to bring legal action. At the June meeting of the Board of Medical Examiners both Dr. Lotz and Dr. Cunningham reported and claimed the seat. The Board of Examiners on advice of Mr. Umbreit, their attorney, seated Dr. Cunningham on the grounds that he held the Governor's credentials. Your Secretary employed Mr. Willett M. Spooner, the Society's attorney to take legal action, but within the last week the Attorney General has held that the statute is too plain to admit of construction. He holds that a legal appointment can only be made pursuant to its express terms; that any failure on the part of the Society to submit the list would not authorize the Governor to appoint someone not on the last list filed by said Society. Attorney General Morgan holds that there has been no vacancy; that Dr. Lotz is still the legal member of the Board, and in the interests of the people of Wisconsin, has started suit in the Circuit Court to compel the recognition of Dr. Lotz. The Society has in this manner been relieved of the expense of prosecuting the case. The Governor if reelected will, no doubt, attempt to have the law changed by the next legislature to such a form as will admit of political appointments to the Board. This would be a serious step backward and should be fought bitterly by the members of this Organization.

REORGANIZATION OF COUNTY SOCIETIES.

I submit herewith Resolutions passed by the Washington and Ozaukee County Medical Societies, requesting that they be combined and that a new charter be issued to the Washington-Ozaukee County Medical Society. It is recommended that the House approve of this plan, refer the matter to the Council for their approval and that the President and Secretary cancel the old charter and issue a new one under the name requested.

To the Council and Board of Delegates of the State Medical Society of Wisconsin.

Whereas. There are only ten physicians in Ozaukee County and about fourteen physicians available for membership in the County Medical Society in Washington County; and

Whereas: With this small membership, the attendance at any meeting, of either the Washington or Ozaukee Medical Societies, when meeting alone is necessarily so small that we do not feel justified in asking any man of prominence to appear before us and we are not financially able to secure programs such as we desire; and

Whereas: Because of this situation it has been our custom in recent years to meet jointly, which is very inconvenient as far as the transaction of the business of each component society is concerned; and

Whereas: It is the unanimous opinion of the members of both Societies that a union of the Washington and Ozaukee County Medical Societies is desirable and to the best interests of everyone concerned, be it hereby

Resolved: That the Council and House of Delegates of the State Medical Society of Wisconsin be hereby respectfully petitioned to revoke the charters of the said Washington and Ozaukee County Medical Societies and

issue a new charter to the members of the two said Societies under the name of The Washington and Ozaukee County Medical Society.

Grafton, Wis., Aug. 2, 1922.

I hereby certify that the above resolution was adopted by the Ozaukee County Medical Society at a regular meeting held at Grafton, Wis., on July 20th, 1922.

Charles A. Bockwell, M. D.
Secretary Ozaukee County Medical Society.

To the Council and Board of Delegates of the State Medical Society of Wisconsin.

Whereas: There are only ten physicians in Ozaukee County and about fourteen physicians available for membership in the County Medical Society in Washington County; and

Whereas: With this small membership, the attendance at any meeting of either the Washington or Ozaukee Medical Societies, when meeting alone is necessarily so small that we do not feel justified in asking any man of prominence to appear before us and we are not financially able to secure programs such as we desire; and

Whereas: Because of this situation it has been our custom in recent years to meet jointly, which is very inconvenient as far as the transaction of the business of each component society is concerned; and

Whereas: It is the unanimous opinion of the members of both Societies that a union of the Washington and Ozaukee County Medical Societies is desirable and to the best interests of everyone concerned, be it hereby

Resolved: That the Council and House of Delegates of the State Medical Society of Wisconsin be hereby respectfully petitioned to revoke the charters of the said Washington and Ozaukee County Medical Societies and issue a new charter to the members of the two said Societies under the name of The Washington and Ozaukee County Medical Society.

West Bend, Wis., Aug. 1, 1922.

I hereby certify that the above resolution was adopted by the Washington County Medical Society at a regular meeting held at Grafton, Wis., on July 20th, 1922.

Albert H. Heidner, M. D.,
Secretary Washington County Medical Society.

There are other county organizations in the state which because of small membership, widely distributed over a considerable area, find difficulty in holding regular meetings. As an example—the Lafayette County Medical Society has held but one meeting in two years and its members are discouraged. They could conveniently attend the meetings of the Grant County Society, a splendid organization holding regular meetings throughout the year. A combination of these two societies would be a distinct advantage to the physicians of Lafayette County.

There are other county organizations in the state where possible annexation to neighboring counties would be advisable, and it is recommended that the House of Delegates instruct the Council to carefully inquire into these conditions and use its best judgment in improving them.

RESOLUTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

At the suggestion of Dr. Olin West, Field Secretary, and W. C. Woodward, Executive Secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association, I am calling to your attention to certain resolutions passed by the American Medical Association. These relate especially to the National Prohibition Law and to the training of Veterans as chiropractors by the Veterans' Bureau.

It is recommended that these resolutions be adopted by this House of Delegates, and that copies of them be sent to our Senators; Members of the House of Representatives; the Commissioner of Internal Revenue; the Prohibition Commissioner; the Director of the Veterans' Bureau and the Assistant Director in charge of the rehabilitation division of that Bureau. The resolutions suggested follow:

VOLSTEAD ACT.

"Whereas, The Medical profession has been subjected to criticism and unfavorable comment because of present conditions associated with the enforcement of the Volstead Law, and

"Whereas, The results of a referendum conducted by The Journal of the American Medical Association, covering 54,000 physicians, indicates that 51 per cent of physicians consider whiskey 'necessary' in the practice of medicine, and

"Whereas, The dosage, method, frequency and duration of administration of this drug in any given case is a problem of scientific therapeutics and is not to be determined by legal or arbitrary dictum, and

"Whereas, The experience of physicians, as reported in The Journal, indicates that the present method of control, limitation of quantity and frequency of administration .licensure and supply of a satisfactory product constitutes a serious interference with the practice of medicine by those physicians who are convinced of the value of alcohol in medical practice, therefore be it

"Resolved, That the House of Delegates of the American Medical Association, in convention assembled, representing a membership of over 89,000 physicians, appeals to the Secretary of the Treasury and to the Congress of the United States for relief from the present unsatisfactory conditions, and recommends that provisions be made for supplying bonded whiskey, *for medicinal use only*, at a fixed retail price to be established by the government."

VOCATIONAL TRAINING FOR DISABLED SOLDIERS.

"Whereas, the St. Louis Medical Society on May 16, 1922 by Memorial and Resolutions vigorously protested against the approval by the U. S. government of the School of Chiropractic as a means of vocational training for disabled ex-service men, and

"Whereas, It appears that more than 250 ex-service

men from all parts of the country, seventy of whom represent the Ninth District, composing the states of Missouri, Iowa, Kansas and Nebraska, are now enrolled in one Chiropractic School in this District with the sanction and approval of the U. S. government; therefore be it

Resolved, That the House of Delegates of the American Medical Asociation, in annual session assembled representing over 89,000 legally qualified physicians, adequately trained in the arts and sciences (the only foundation for the recognition, control and prevention of disease), approves the sentiments expressed in the Memorial and Resolutions adopted by the St. Louis Medical Society, which have been submitted to this House, and hereby directs that the proper officers of the American Medical Association memorialize and petition the Federal government, particularly those officers charged with the responsibility for the rehabilitation of disabled ex-service men, and to take such action in the interest of the welfare of all the people, and also for the protection of those who honestly desire to administer to the sick, to the end that the ex-soldiers seeking vocational training, which will fit them for ministering to the sick and aiding in the recognition, control and prevention of disease, shall, at least, meet the requirements and shall receive such adequate training as is defined in the classification of medical schools of the American Medical Association, known as Class A, or acceptable medical schools—a standard which is approved by all right-thinking people moved by a desire for public welfare."

POSTGRADUATE MEDICAL INSTRUCTION.

The University Extension Division at Madison has continued its postgraduate medical instruction throughout 1922, and courses have been given in nearly every section of the state. This work was instituted at the request of the State Medical Society, and it is only fitting that the House of Delegates and members of the Society indicate to your Secretary the line of work you wish taken up during the coming year.

WOMAN'S AUXILIARY.

At the recent meeting of the American Medical Association at St. Louis, the following resolution was unanimously endorsed by the House of Delegates:

"The Woman's Auxiliary to the State Medical Association of Texas respectfully requests the approval of the American Medical Association of a movement to organize a Woman's Auxiliary to the American Medical Association, the object of which shall be to extend the aims of the medical profession through the wives of doctors to the various women's organizations which look to the advancement of health and education. To assist in entertainment at all medical conventions, to promote acquaintanceship among doctor's families so that closer fellowship may exist."

On the morning of May 26 a National Organization was formed. I am requested by this Organization to bring this matter to your attention, and to use my influence toward the organization of a Woman's Auxiliary to the State Medical Society of Wisconsin. I would suggest this matter be considered by the Reference Committee who will consider this report, and that they bring in some recommendations regarding it. The literature of the Woman's Auxiliary will be furnished this committee.

CLOSING.

In closing let me again acknowledge my indebtedness to the loyal service of the overworked county secretary, and to remind you again that the activities of the Organization are in no way confined to an annual meeting. Your officers and your committees are working in your interest and in the interest of the people of Wisconsin throughout the year. They are *your* officers and *your* committees, this is *your* Society and *your* Journal, and the success of the Society and of the Journal depend in a large measure on *your* loyalty and on what you are willing to contribute individually in service and financial support.

Respectfully submitted,

ROCK SLEYSTER,

Secretary.

Dr. Otto Fiedler, Sheboygan: I move that the report be adopted and referred to the committee.

Motion seconded and carried.

Dr. Joseph Smith, Wausau: May I ask a question regarding this suit that is being brought by the attorney general to determine the legality of Dr. Cunningham's appointment? I am wondering when that will probably have a hearing before the Supreme Court, whether it is likely to come up during the term of office of this attorney general, or is it likely to be carried over to the next administration?

President: Can you answer that question, Dr. Evans?

Dr. Edward Evans, La Crosse: I do not think there is any definite impression on that. I imagine that the present attorney general will take pleasure in pushing it through during his administration, if he can.

Dr. Wilkinson, Oconomowoc: I rise for information. I believe Dr. Fiedler is a member of the State Board of Examiners.

Dr. Fiedler No.

Dr. M. R. Wilkinson, Oconomowoc: If not, is there any one present who is? The reason I ask is that a month or two ago I noticed the examiners met and were conducting an examination, and at this convening of the Board passed a resolution endorsing the appointment of Dr. Cunningham. That was published in the Milwaukee Sentinel.

Dr. H. E. Dearholt, Milwaukee: Mr. Chairman and Gentlemen, I think that was probably a mistake on the part of some reporter. As I understood that from the department with which I am associated, the question was brought to them as to whether or not they would recognize Dr. Cunningham or approve of Dr. Lotz's claim that he and not Dr. Cunningham was the legal member

of the Board, and they resolved to seat Cunningham on the advice of their attorney, that was all.

While I am on my feet I want to say that Dr. Lotz is squirming terribly over the situation he has been placed in. It is the last thing on God's footstool that he is disposed temperamentally to do, to go to a court proceeding or any place else to claim a state office, and he is really sacrificing all of his own feelings and sensibilities in this matter in the interest of this society. He is doing this, beause he feels that our society, not he personally, has had an indignity done it, and is willing to make this petition for his society. It is a most obnoxious situation to him.

Dr. B. E. Scott, Berlin: Mr. Chairman and Gentlemen: In view of the fact that the Committee on Resolutions will make a report regarding the establishment of a women's auxiliary to the State Medical Society, I think it would be an assistance to the committee in making the report at the meeting this evening if we could get an expression of opinion of the House of Delegates at this time as to whether such action was desirable or not. Our report would necessarily be to either recommend or disapprove of such action and I would suggest that by a rising vote, or by some other means, the sentiment of the House be taken at this time before the committee acts upon that matter.

President: Gentlemen, if you wish to respond to this request, all in favor of that will rise.

Dr. A. E. Bachhuber, Mayville: It is a matter that I have very little information on.

Secretary Sleyster: I think if the committee will look through this literature they can probably get some information on it.

S. S. Hall, Ripon, presented his report as Treasurer of the Society as follows:

TREASURER'S REPORT.

Green Lake, Wis., Sept. 2, 1922.

S. S. Hall, Treasurer, in account with the State Medical Society of Wisconsin.

DEBTOR.

Balance on hand Sept. 3, 1921	$ 5,523.89
Received from Secretary for County Dues (Including $426.60 received from committee of arrangements)	8,454.60
Total	$13,978.49

CREDITOR.

1921			
Nov.	9—J. P. McMahon, Wisconsin Medical Journal	$2,000.00	
Dec.	12—J. P. McMahon, Wisconsin Medical Journal	1000.00	
1922			
Jan.	5—J. P. McMahon, Wisconsin Medical Journal	$2,500.00	$ 5,500.00
1921			
Sept.	15—University Extension Division, U. W., Rental Child Birth film	$ 200.00	
	19—H. C. Netherwood Ptg. Co., Com. Pub. Health & Instr.	19.85	
	22—WATA, Milwaukee, Crusaders & Services	130.95	
	23—L. C. Smith Bros., Repair Typewriter, Secy	1.00	
	Cannon Ptg. Co., Programs & Songs	57.00	
	28—Jos. C. Bloodgood, Expense	100.36	509.16
Oct.	5—Violet E. Coles, Salary July, August & September	75.00	
	Rock Sleyster, Expense Secy	1.78	
	6—Geo. P. Barth, Expense Com. Medical History	46.40	
	10—Dr. J. W. Nuzum, Expense	10.00	
	12—Dr. R. E. Farr, Expense	25.00	
	31—Siekert & Baum Stationery Co., Expense Secy	8.55	166.73
Nov.	9—J. P. McMahon, Expense Cancer Com	$ 154.89	
	19—Dr. H. M. Brown, Expense Delegate A. M. A	91.84	
	23—Cannon Ptg. Co., Corrected Statement	45.00	
Dec.	28—Siekert & Baum Stationery Co., Expense Secy	2.75	294.48

1922			
Jan.	5—Violet E. Coles, Salary Oct., Nov., & Dec.	$ 75.00	
	14—Cannon Ptg. Co., Expense Secy.	28.00	
	Siekert & Baum Stationery Co., Expense Secy	1.35	
	24—J. G. Taylor, Expense Madison	12.61	
Feb.	3—Rock Sleyster, Expense Secy	17.21	
	11—Rock Sleyster, Clerical Services Aug. 1, 1921	250.00	
	18—D. Hopkins, Refund Dr. J. F. McCoy	6.00	
	Milwaukee University Club, Lunch, Counsel	5.55	
	20—Siekert & Baum Stationery Co., Expense Secy	6.10	
Mar.	8—H. E. Dearholt, Univ. Club, Lunch, Counsel	19.65	
	18—Acme Ptg. Co., Letter Heads	23.50	
	30—Geo. P. Barth, Expense Com. of History	137.80	
	31—H. H. West Co., account Secy	5.30	
Apr.	5—Rock Sleyster, Postage & Telegrams	5.35	
	Violet E. Coles, Salary Jan., Feb., & March	225.00	
	7—Siekert & Baum Stationery Co., Expense Secy	15.50	
May	20—W. F. Zierath, Expense Councilor	8.53	842.45
June	5—Rock Sleyster, Expense Delegate A. M. A.	$ 26.21	
	Joseph F. Smith, Expense Delegate A. M. A. St. Louis	49.68	
	McDermott & Cowan, Reporters Meeting 1921	193.70	
	L. C. Smith & Bros., Repair Typewriter, Secy	1.50	
	30—Hotel Lake View, Gr. Lake, Expense Com. Arrange	4.50	
July	1—Cannon Ptg. Co., Symposium Cancer, Dr. McMahon	44.00	
	6—Violet E. Coles, Clerical Services, Secy	75.00	
	Violet E. Coles, Clerical Services, Secy	50.00	
	Bessie P. Mason, Clerical Services, Secy	50.00	
	Rock Sleyster, Envelopes, Expense Secy	10.96	
	22—Dr. O. B. Bock, Expense Com. PP & L	20.00	525.55
Aug.	4—Siekert & Baum Stationery Co., Expense Secy	1.30	
	Cannon Ptg. Co., Expense Secy	10.50	
	Jacks Letter Service, Expense Secy	3.85	
	P. S. Hall, Banner Annual Meeting	13.00	
Sept.	2—Rock Sleyster, Expense Postage	25.00	
	Siekert & Baum Stationery Co., Expense Secy	3.65	
	Cannon Ptg. Co., Expense Secy	14.00	71.30
	Rock Sleyster—Salary one year	$ 600.00	
	S. S. Hall—Salary one year	200.00	
	S. S. Hall—Incidentals	25.00	825.00
	Total		$ 8,734.67
	Balance		5,243.82
			$13,978.49

Respectfully Submitted,
SIDNEY S. HALL,
Treasurer.

TREASURER'S REPORT, MEDICAL DEFENSE FUND.

Green Lake, Wis., September 2, 1922.

S. S. Hall, Treasurer, in account with the State Medical Society of Wisconsin.

DEBTOR.

Balance on hand September 3, 1921	$3,853.49
Received from Secretary for County Dues	3.467.00
Total	$7,320.49

CREDITOR.

1921		
Sept. 26—Lines, Spooner & Quarles	$3,345.72	
1922		
Jan. 24—Lines, Spooner & Quarles	215.00	$3,560.72
Total		$3,560.72
Balance		3,759.77
		$7,320.49

SECRETARY: The constitution provides that the report of the treasurer be referred to an auditing committee. He will not want to appoint the committee, so with your permission I will appoint Dr. Wilkinson, Dr. Smith and Dr. Windesheim.

PRESIDENT: The next business in order is the election of delegates and alternates to the A. M. A. to succeed Dr. Sleyster and Horace M. Brown, delegates, and W. E. Bannen and F. Gregory Connell, alternates. What is your pleasure, to elect them now or refer it to the committee?

DR. OTHO FIEDLER, Sheboygan: I move that it be referred to the nominating committee.

Motion seconded.

Motion put and carried.

PRESIDENT: The next order is the election of councilors to succeed J. M. Dodd, 11th District, and Hoyt E. Dearholt, 12th District. What is your pleasure?

DR. A. E. BACHHUBER, Mayville: Mr. President, I move that they succeed themselves.

Motion seconded.

Motion put and carried.

PRESIDENT: The election of committees and delegates. (a) Committee on Public Policy and Legislation. What is your pleasure, gentlemen?

DR. JOSEPH SMITH, Wausau: I move that the present committee be elected to succeed themselves.

Motion seconded.

Motion unanimously carried.

PRESIDENT: The next is the election of the Committee on Medical Education, Drs. L. F. Jermain, Milwaukee, Edward Evans, La Crosse, C. R. Bardeen, Madison. What is your pleasure?

DR. T. W. NUZUM, Janesville: I move that they be elected to succeed themselves.

Motion seconded.

Motion put and unanimously carried.

PRESIDENT: The next order is the election of a delegate to the council on Health and Public Instruction, A. M. A., to succeed Dr. G. Windesheim. What is your pleasure?

DR. JOSEPH SMITH, Wausau: I move that Dr. Windesheim be reelected to succeed himself.

Motion seconded.

Motion put and unanimously carried.

PRESIDENT: The next order is the election of delegates to Council on Medical Education, to succeed L. F. Jermain.

DR. T. W. NUZUM, Janesville: I move that Dr. Jermain be reelected.

Motion seconded.

Motion put and unanimously carried.

PRESIDENT: The next order is the election of Member of Committee on Health and Public Instruction to succeed Dr. W. H. Washburn.

SECRETARY SLEYSTER: I think it is rather important that the delegate to the Council of Health and Public Instruction be a member of this state committee on Health and Public Instruction, as it keeps the committee in closer touch with the work of the American Medical Association. It is really a sub-committee of the A.M.A., and I think in view of Dr. Windesheim's reelection as delegate, that it would be very fitting to elect him to a place on this committee, so that the committee can be directly represented at the A.M.A. meetings.

DR. OTHO FIEDLER, Sheboygan: I nominate Dr. Windesheim.

Nomination seconded.

PRESIDENT: It is moved that Dr. Windesheim be elected as a member of the Committee on Health and Public Instruction, to succeed Dr. Washburn.

DR. NUZUM, Janesville: I second the motion.

Motion put and unanimously carried.

PRESIDENT: The next order is the election of a committee on publication.

SECRETARY SLEYSTER: Dr. Lotz, Dr. Dearholt, Dr. Smith, with the secretary and treasurer exofficio members, constitute this committee.

PRESIDENT: What is your pleasure?

DR. OTHO FIEDLER, Sheboygan: I move the reelection of the committee.

Motion seconded.

Motion put and unanimously carried.

PRESIDENT: The next order is miscellaneous and new business.

SECRETARY SLEYSTER: Mr. President, I have a few communications to read.

(Communications read by the Secretary.)

DR. JOSEPH SMITH, Wausau: I move that we accept the resignation of Dr. Zierath.

Motion seconded.

PRESIDENT: It is moved and seconded that the resignation of Dr. Zierath, as councillor be accepted. All in favor of the motion will signify by saying Aye.

Motion carried.

PRESIDENT: It will now be necessary to elect a new councillor in the place of Dr. Zierath.

Dr. G. Windesheim, Kenosha: Mr. President and Gentlemen: It has been the custom that the House of Delegates select a councillor for the councillor district. I personally do not believe that that is the right procedure. I think that the selection of a councillor for a district ought to be left to the component county societies, that is, to the societies representing that district, or forming that district. They ought to nominate a man and bring the name of that man before the House of Delegates to select. Many delegates in the different parts of the state do not know who will be selected, or who would be desired by the members in that district, and I believe it would be a good plan for the members of that district of the county societies in that district to get together and nominate a man and present the name to the House of Delegates for action.

Dr. M. R. Wilkinson, Oconomowoc: I think that Dr. Windesheim's ideas conflict with the previous custom and with the constitution, and we have with us today a representative who has sufficiently demonstrated his ability and worthiness to fill that position, and for that reason I nominate Dr. Bock as councillor.

Nomination seconded.

President: It has been moved and seconded that Dr. O. B. Bock be presented as a candidate for the election to the position of councillor to fill the unexpired term of Dr. Zierath. What is your pleasure?

(Calls for the question.)

President: Are you ready for the question. All in favor of the motion will signify it by saying Aye, contrary No. It is carried.

Secretary Sleyster: I have a letter from Ernest Harold Baynes, of Meridan, New Hampshire, I would move that this communication be referred to the Committee on Health and Public Instruction.

Motion seconded.

Motion put and carried.

Secretary Sleyster: That is all I have.

President: Is there further business?

Dr. Joseph Smith, Wausau: Is it in order at this session for the Nominating Committee to be appointed, and did we have that in mind?

President: That was delayed. We thought there would be more here. Have we a man from each district present?

Secretary Sleyster: I do not think so. I would suggest that that go over until the meeting this evening.

President: That will have to go over until the evening session. If there is no further business, a motion to adjourn until 7:30 or 8 o'clock is in order.

Motion to adjourn to 8 P. M. made, seconded and carried.

Session Tuesday evening, September 5th, 1922.

Meeting called to order by the President.

President: Our reports from councillors were not completed as some of the members are not here. Is the councillor of the Third District present, E. B. Brown, Beloit? Fourth District, Dr. Cunningham, not present.

Fifth District, not present.

Sixth District, Oshkosh, Dr. Connell, not present.

Eighth District, Dr. Redelings.

Report of the councilor district presented by Dr. Redelings as follows:

Mr. President and Gentlemen: I have no report of consequence to make. Your councillor has been inactive except with his pen. What I have done I have done by correspondence. The status of the district is pretty fair. However, we show a small loss and this is largely due to shifting of location on the part of the men. Our man Erickson has moved into the western part of the state from Marinette. Florence county has practically held its own. There is a little dissatisfaction in Shawano county, which was disclosed to me by letters I received when I was urging them to remit their dues. It seems that the county society raised its annual dues to a point where the men became rebellious. I think, however, that the loss will be compensated perhaps before the end of the year.

Your councillor lent himself to the cancer crusade, and we put on a fairly active and reasonably efficient educational campaign in our city and county.

I think that is all I care to report.

President: Tenth District, R. E. Mitchell, Eau Claire, not present.

11th District, Dr. Dodd, Ashland, not present.

The next business is the election of the Nominating Committee.

The following Nominating Committee was elected from the floor.

Dr. A. E. Bachhuber, Mayville.
Dr. R. C. Halsey, Lake Geneva.
Dr. C. R. Bardeen, Madison.
Dr. Rush Godfrey, Lancaster.
Dr. Otho Fiedler, Sheboygan.
Dr. D. N. Walters, Fond du Lac.
Dr. Edward Evans, La Crosse.
Dr. T. J. Redelings, Marinette.
Dr. Joseph Smith, Wausau.
Dr. P. E. Riley, Eau Claire.
Dr. S. G. Higgins, Milwaukee.

The next order of business is the report of the Committee on Resolutions, appointed this afternoon.

Report presented by Dr. B. E. Scott, as follows:

The Committee on Resolutions recommends the adoption of the resolution relative to the Volstead Act as recommended by the American Medical Association and introduced this afternoon by Dr. O. B. Bock, Sheboygan. The resolution was read this afternoon. If you wish to have it read again I will read it.

(Resolution read.)

Dr. Scott: I move the adoption of the resolution.

Motion seconded.

Motion put and unanimously carried.

Dr. Scott: The committee further recommends the adoption of the resolution relative to the vocational training of disabled soldiers, as recommended by the American Medical Association, introduced this afternoon by Dr. Bock, of Sheboygan, as follows:

(Resolution read)

Dr. Scott: I move the adoption of the resolution.

Motion seconded.

Motion put and unanimously carried.

Dr. Scott: The committee further recommends the adoption of the resolution relative to the Medical Practice Act, as amended by the committee as follows. I will first read the resolution as presented, and call attention to the last paragraph, which is an amendment I have submitted.

Whereas, the ever increasing number of different cult schools of the healing art, are sending their graduates into our State, and

Whereas, some of these practitioners are not required to pass an examination or procure a license to practice their alleged professions within this state and

Whereas, the doors of this State are wide open for the admission of such practitioners, and as a result an unsuspecting public is in danger of being imposed upon, as a result of insufficient protective measures,

Now Therefore Be It Resolved, by the Wisconsin State Medical Society, that in view of existing conditions, a Medical Practice Act be submitted by it to the next session of the State Legislature, that will be just and impartial to all schools and methods of healing, yet adequate in its protection to the general public,

Be It Futher Resolved, that the House of Delegates of the Wisconsin Medical Society, hereby direct and authorize the Committee on Legislation to cause to be drawn a new Medical Practice Act, in accordance with the foregoing, to govern the practice of the art of healing in this State; and that for such purpose the said Committee be authorized to employ such legal counsel, as it may deem necessary to draft a proper and suitable bill, and that the said Committee be further authorized to incur such expense, not to exceed its budget apportionment, as it may find necessary to properly submit such bill to the Legisature, to the end that its passage may be obtained."

This last paragraph that I am about to read is the original part of the resolution.

(Paragraph read)

This last paragraph the committee has changed to read as follow:

"*Be It Further Resolved*, that a special fund is hereby created, to be known as the Legislative Fund, to defray the necessary expenses to carry out the purpose of this resolution, and that such fund be set aside from the general fund under the direction of a Budget Committee of the Council."

I would move the adoption of the amended resolution.

Motion seconded.

President: Moved and seconded to adopt the resolution as amended.

All in favor say Aye; contrary No.

Motion unanimously carried.

Dr. Scott: The committee further approves the recommendation of the Secretary and President of the Council to employ a full time executive secretary, and to meet increased expenses of the State Society, further recommends a raise of the annual dues to ten dollars a year. We believe, however, that this increase of dues should be instituted only after a referendum vote of the general membership of the Society, and recommend that such a referendum be conducted under the direction of the Secretary on or about December 1st of this year.

The House of Delegates directs each councillor to visit each county medical society in his district before such referendum vote is taken, and present to them the need and advantages of such increased dues.

I move the adoption of this recommendation.

Motion seconded.

President: You have heard the motion as seconded. All in favor will say, Aye.

Opposed, No.

Motion unanimously carried.

Dr. Scott: Pursuant to the recommendation of the President of the Council, your committee approves the discontinuance of the present legal defense of malpractice suits, and recommends that this matter also be submitted to a referendum vote at the same time and in the same manner as the matter of the increase of such dues.

I move the adoption of this recommendation.

Motion seconded.

President: All in favor of the motion as read will say, Aye.

Opposed, No.

Motion unanimously carried.

Dr. Scott: Your committee further recommends postponement of action relative to Women's Auxiliary for at least a year.

I move the adoption of the recommendation.

Motion seconded.

Dr. Scott: The reason of this is that there is no need of immediate plan for its formation. I think a definite form for its creation should be in existence when it is organized.

Motion seconded.

President: All in favor will say Aye. Contrary, No.

Motion unanimously carried.

Dr. Scott: The committee further recommends that the Council be authorized to cancel the charters of Washington county and Ozaukee county medical societies, and issue a charter to the Washington-Ozaukee County Medical Society.

I move the adoption of this recommendation.

Motion seconded.

Motion put and unanimously carried.

Dr. M. R. Wilkinson, Oconomowoc: I think the point should be determined into which district that will go. Washington is now in the First Councillor District, and Ozaukee is in which district?

Dr. Fiedler: The 5th.

Dr. M. R. Wilkinson: I think that should be determined also, that the two societies be in the 5th District, because it is a long ways from our neck of the woods. Will that automatically go to the 5th district?

Secretary Sleyster: No, it would not. I think that should be determined by the House of Delegates. I think the 5th District is the logical place for it.

Dr. A. B. Bachhuber, Mayville: I make a motion to that effect, that it go into the 5th District.

Motion seconded.

Motion put and unanimously carried.

We futher recommend that all nominations for officers and committee men of regular standing committees be made by the Nominating Committee of the House of Delegates.

I move the adoption of this recommendation.

Motion seconded.

PRESIDENT: Gentlemen, you have heard the motion. All in favor will signify it by saying Aye; contrary, No.

Motion unanimously carried.

DR. JOSEPH SMITH, Wausau: In reference to that resolution, requiring the committee to have a Medical Practice Act drawn, I would like a little information. The Medical Practice Act that we are now laboring under I believe was drawn or instigated by an attorney by the name of Umbreit, if I am not mistaken, and I think that he is still employed as the attorney of the Medical Examining Board in this state. Now, if it should turn out in any way that Mr. Umbreit is employed to draw a new Medical Practice Act for us, I do not think that we are going to get any further than we now are, and I think we ought to express some opinion in regard to that matter here and now, before the matter goes any further.

DR. O. B. BOCK, Sheboygan: I respectfully ask this assembly to give us some other attorney than Umbreit. Umbreit did not come just right on that last one, and I think that you could do justice to the man that introduced the bill for us, Senator Benfry, who would be my choice as the party to represent our committee. He is able and well qualified.

DR. JOSEPH SMITH, Wausau: Mr. President, I would like to move that the committee on Public Policy and Legislation be authorized to employ the attorney that they think best to assist them in this work.

Motion seconded.

DR. B. E. SCOTT, Berlin: I think the resolution practically covers that. There is a provision in there that they be authorized to get what legal assistance they need in the drafting of such bill.

DR. EDWARD EVANS, La Crosse: Is Umbreit employed any more by the Board of Medical Examiners?

SECRETARY SLEYSTER: Only as they call him in. He is not in their regular employ.

DR. OTHO FIEDLER, Sheboygan: I suggest that when the councillors appear before the county medical societies to present the matter of increased dues, they discuss at the same time with the county medical societies, the proposition of dropping the medical defense in malpractice suits, because I think if the men really understood the matter they would not care to pay $2 a year just for that privilege, because all of those men who are subject to malpractice suits carry insurance anyway, and they are not benefited by this appropriation.

PRESIDENT: Is the motion of Dr. Smith still before the House?

DR. JOSEPH SMITH, Wausau: I would like to have that voted on. I do not think it would do any harm to express ourselves on that.

PRESIDENT: It was moved and seconded that the committee on Public Policy and Legislation be authorized to employ their own attorney. Are you ready for the question? All in favor of the motion say, Aye, contrary, No.

Motion unanimously carried.

DR. M. R. WILKINSON, Oconomowoc: Mr President, I rise for a little information. The councillor in speaking in regard to dropping the defense will have to know what that means. I believe the dues for the ensuing year have been fixed at $10 per year.

SECRETARY SLEYSTER: It will be put up to a referendum the 1st of December. The councillors were to call on their various county societies and explain the need and necessity for the raise of dues and the additional benefit which will follow by raising the dues.

DR. M. R. WILKINSON: That was supposed to be a raise to $10.

SECRETARY SLEYSTER: $10, yes.

DR. WILKINSON: Now, the question which I am asking is, in case the referendum is adverse to the continuation of the medical defense department, shall we be properly speaking to them when we say that the dues next year will be $8 instead of $10. That is important to decide here tonight. If they will be $10 anyway, we might as well have the defense.

DR. T. J. REDELINGS, Marinette: The loss of five members from the Shawano County Medical Society I think was due to the fact that the dues of that society were raised to $10, and men failed to respond to that raise in the dues, that you would hardly think would hesitate for one moment. I do not wish to be personal, but I have had letters from men saying that they objected to paying any such dues for the county society. While I realize the necessity and understand the importance of the need of larger funds in our state society, I am inclined to think that that raise must be reached by easy stages. We can go up a little at a time, and not go up quite so suddenly. The present dues are $4, are they not?

SECRETARY SLEYSTER: Six, including defense.

DR. REDELINGS: That is the State. I think I momentarily forgot that our dues were $6. That is all right.

SECRETARY SLEYSTER: When we raised the dues from $4 to $6 our membership increased, and has ever since, so that the $2 raise made no difference at all with the membership. The money, doctor, will cover the salary of the full time secretary and also the cost of maintaining a so-called lobby before the Legislature.

DR. H. E. DEARHOLT, Milwaukee: I share somewhat the confusion that Dr. Wilkinson has spoken about. It seems to me that it is a very embarrassing set of questions to make up for the membership, to put up to the advocates of this proposition, because if the medical defense is dropped by resolution that would be equivalent to adding about $2 more to the dues in itself, and I think the fellows are going to raise that question, and I believe we ought to be pretty clear on it. I do not care about it myself.

DR. M. R. WILKINSON, of Oconomowoc: The question will arise "why introduce this policy and adopt it with a raise of $2". Now we are quitting the medical de-

fense and raising $4, what will they expect next time?

Dr. A. E. Bachhuber, Mayville: I would suggest this, that if the Medical Defense Act is dropped the dues be raised to $8, and if the Medical Defense Act is retained, to $10, because those $2 would automatically revert to the society.

Secretary Sleyster: That would be adequate, I think, doctor.

Dr. Bachhuber: Either leave those $2 in for medical defense, or have it $8 without medical defense. That would bring it out the same.

Dr. O. B. Bock, Sheboygan: In our resolution that we introduced asking for $5, that was for this year only, that was not to be continued every year. That was an emergency fund to be raised. Everybody put in $5 towards this bill. Whatever we use we will use, and the rest is turned back and stays here. That was for this year only.

Dr. Edward Evans, La Crosse: I would like to ask a few questions, Mr. Secretary. Are there any now who are paying annual dues who are paying the defense fund?

Secretary Sleyster: About 25% of our membership do not pay to the medical defense fund. Of course that has been optional, and there are whole counties, I think, where no members carry medical defense.

Dr. Edward Evans, La Crosse: Another question I would like to ask: Is there anything compulsory in this tax of $5? Have we any means of enforcing that?

Secretary Sleyster: According to the recommendation of the Reference Committee, the tax of $5 would not be made. The increase of dues would take care of the legislative work of the society. I think, however, that Dr. Bachhuber's question is pertinent, and I think that could be left with the council. It is my belief that in case medical defense is dropped, a raise of dues to $8 will take care of all the expenditures of the society we have in mind today; whereas, if the medical defense is retained, it would be necessary to raise them to $10.

Dr. Edward Evans, La Crosse: What will we do in case the response to this $5 assessment is so small?

Secretary Sleyster: The $5 assessment has been dropped, Dr. Evans, that is not under consideration. In case the referendum on raising the dues is defeated, the society will have to proceed as it has in the past, with a part time secretary and with extremely limited funds to do any legislative work.

Dr. Edward Evans, La Crosse: I see you holding onto that job for some time.

Dr. T. J. Redelings, Marinette: I have decided confidence that a request for a contribution of $5 from the members for a legislative fund would be very generally responded to. Some men, of course, would hesitate. We have a bunch of good fellows in our society, and they are going to come to our rescue when we need it, if the thing is put up to them in the right light.

Dr. Bachhuber: I feel that way, too.

Dr. Joseph Smith, Wausau: Mr. President, it seems to me that if this emergency legislative fund is only to be collected for one year, that really the better policy is to separate that matter entirely from the question of dues, simply make an assessment and have the councilors try to put this over in the various districts for the legislative purpose and keep that entirely separate from whatever money may be necessary for a full time secretary and whatever expenses are permanent. In other words, I believe it would be better to ask for contributions or make an assessment for the legislative purposes, and then try to arrive at the amount that would be for permanent dues for fixed expenses as an independent matter. I think we can get that through better among the members than we can if we make an assessment here that looks like a permanent thing.

Dr. Edward Evans, La Crosse: Do you want a reconsideration of one of those resolutions?

Dr. Joseph Smith, Wausau: I think we ought to reconsider, or do something.

Dr. R. C. Halsey, Lake Geneva: I would like to add my opinion to substantiate Dr. Smith. I think you would raise more money with less dissatisfaction among the members by asking those who are willing. As Dr. Redelings said, there are enough good fellows in the society who will pay an assessment and it will cause less dissatisfaction than to try to put it over as an obligatory measure. I just want to relate what experience we had in Walworth county. We had a rejuvenation, as our councilor said, and got everybody out and everybody in, and we had a matter of some programs that we wanted a little money for, and by a special assessment of $5 rather than raising our dues, almost everybody came in the $5 assessment and made no kick as they knew what it was for.

Dr. Otho Fiedler, Sheboygan: The idea of the committee was, I believe, that the state society ought to have more money. As the President of the council pointed out today, a labor union will assess its members a dollar a month, and the doctors have been paying fifty cents. The State Society needs more money for this legislative program and may need it for the subsequent legislative program, and the resolution as changed provided for the creation of a budget committee within the council, under the authority of the council to apportion the funds collected into the general fund, as this budget committee saw fit, and as they found it necessary. Sometimes the secretary's office would need more money, sometimes the legislative committee or some other committee would need more money, but the general dues of the Medical Society, I believe, ought to be raised, and it ought to be approximately $10, and the Medical Society would then have funds to do some of the work it ought to do. Now, if we go on paying $5 here and $5 there, when you come next time they are going to be just as provoked about that, saying this thing is coming every year, very much more so than if you decide what the dues shall be by a referendum after explanation. I think you would get most of the county societies to accede to a raising of their dues to $10, with the explanation of what they are needed for, what you want them for this year, and what you want them for probably next year. If you do not do this you will be in the same boat again next year.

Dr. Schmeling, Columbus: Mr. President, I fully

agree with Dr. Fiedler we should raise our dues so we can meet our needs. When a doctor friend of mine went to California he wrote me a letter stating that his monthly dues were $2, which would be $24 a year. That was at Santa Clara, California. I think our members ought to be willing to pay $10.

Dr. O. B. Bock, Sheboygan: I should like to make one point. How much money is there available so that we can go ahead now, because we must start before January 1st, because the legislature goes into session and we must be ready to get in on the ground floor with an early bill.

Dr. S. S. Hall, Ripon: We spent a little more last year than our receipts.

Dr. M. R. Wilkinson, of Oconmowoc: I believe that our society has always been too near the edge of bankruptcy, and I believe also that we will never have a good strong, healthy, vigorous organization until we have a sufficient fund in the treasury. The Tri-State Medical Society, which is working upwards, is striving to get an endowment fund to support it and enable it to put on good substantial programs and if our society aspires to live and prosper and flourish and do itself credit we have got to forget those who are penurious and get at those who are big-hearted, and get a treasury well supplied so that we are able to live without everlastingly digging to raise the dues and to get money enough to cover the needs of the society. I believe a round figure of $10 will be little enough, $1 for the local and $9.00 for the State Society. I believe as a councilor I would go before any society and advocate that as the lowest sum we can expect to have a society that is good and will meet the desires of its body. They tell in our county society of the great program the Tri-State Society put on in Milwaukee a year ago. It is up to us to show them as good a program or put on as good a program as any Tri-State Society can put on. For that reason, as far as my money goes, I am in favor of putting it into the State Society and making it a bigger and better State Society and the best State Society in the United States.

Dr. P. E. Riley, Eau Claire, Mr. President, it seems to me that the discussion tonight has brought in matters that are kind of befogging what we are trying to accomplish. As Dr. Dearholt has stated, if you bring the matter of dropping the medical defense and have a referendum, you will not know where you are at until the dues are all collected; and as that matter of medical defense is optional and has nothing to do with membership and its existence, it seems to me, while it is not perfect, it does have a good moral effect on that class of attorneys and class of people who are looking for a chance to go after the physician. I wonder if it would not be wise if we are trying to raise the dues to $10, which I believe we should do, to let the medical defense fund stand for this year. That would clear the atmosphere and let us know just what we are going to do.

Dr. Otho Fiedler, Sheboygan: The committee thinks we are paying three thousand or thirty five hundred dollars a year for very little service on the medical defense proposition, as retainer.

Dr. T. J. Redelings, Marinette: Mr. President, it occurs to me that it might be a wise thing to push that referendum forward and have it taken immediately after the state meeting, and give us a little time in which to consider and mature plans. If you leave it until December the legislature will convene in January and you will not know what you have to do with or to work with until the thing is all over.

Dr. Otho Fiedler, Sheboygan: You have to have time for the councilors to visit the societies.

Dr. Joseph Smith, Wausau: I for one would like to know more about the activities of this medical defense before voting on the question of dropping it. I wonder if the members of this committee are likely to be here tomorrow, and if so whether it would not be wise for us to postpone the consideration of this question until we can have the presence of one or more of that committee. There are some questions that I should like to ask, and some things I would like to have explained by the committee before I vote on the question.

Dr. Otho Fiedler: Didn't that committee recommend dropping it last year?

President: No, the question had not been discussed much in the committee.

Secretary Sleyster: The question has been raised every year, but nothing definite was done about it.

Dr. Schmeling: I believe that Dr. Reineking asked for an increase of 50 cents last year for the defense.

Secretary Sleyster: He asked for it, but did not get it.

Dr. Schmeling: No, he did not get it, but he asked for it, didn't he?

Secretary Sleyster: Yes, sir.

Dr. Edward Evans, La Crosse: There was no discussion last year of discontinuance.

Dr. T. J. Redelings, Marinette: What is the status of the defense fund?

Secretary Sleyster: It is always low. The attorneys' bills have always eaten up the defense funds, and I guess Dr. Hall has usually been a little behind in the bills.

Dr. S. S. Hall, Ripon: Well, this last year we paid out a little more than we had in that fund for a short time, but now we have a little more than $3000.00 on hand. In the course of the next month or two that will probably all go out.

Dr. S. S. Hall: That will leave us without funds until after the 1st of January.

Dr. Edward Evans, La Crosse: I do not know if I am out of order in speaking on those resolutions that have been passed, or any of them, but it seems to me if we would get Article 10 of our constitution, it says funds shall be raised by an equal per capita annual assessment, fixed by the House of Delegates, by 4/5 vote of those present. Your referendum vote is going to go out, to let the fees be $10, and we will be arguing the same question next year, and the attitude of the members will be in a worse psychological condition to get the fees raised, because I feel certain it will be

voted down if we just ask answers to questions, whereas the House of Delegates is here empowered to raise the fee and fix it, and if it is done I think the members will agree.

DR. H. E. DEARHOLT, Milwaukee: I think you are right, Dr. Evans.

DR. L. F. JERMAIN, Milwaukee: I do not see how you can make this contingent upon the referendum, regarding this defense fund; that is an entirely separate and voluntary thing. Even if your defense fund is voted down, even if the members decide they don't want any defense, that is not going to help your society or increase your funds in the society at all. If you want to increase your funds for the society, you have got to raise the dues and raise them now. That is the only way I can see, either by assessment or by raising the dues, and the House of Delegates is the only body that I know of that can do that.

DR. G. WINDESHEIM, Kenosha: Mr. President, if we leave the raising of dues to a referendum vote that is to be taken after the 1st of December, I should like to know how the council at its meeting in January will know how much funds we have and what they could do with the funds. You could not get an answer before the meeting of the council, and it would take another year before you know whether you have any funds at all or not. It seems to me that either the house of delegates at the present time should raise the dues, independent of the medical defense fund, just the regular dues of the society, and if the majority of the members will vote to retain the medical defense, it will mean an extra fee for medical defense; but the regular fees of the medical society for membership in the society should be raised, either by the House of Delegates now, or else, if they do want a referendum, have it right away, so that the legislative committee will know whether they can have any money, and the council will know how to make up the budget.

DR. OTHO FIEDLER, Sheboygan: Mr. President, to bring this matter then properly before the House of Delegates, I move you that the annual dues of the State Medical Society shall be fixed at $10 per annum, one dollar to remain in the treasury of the county society, and $9 to go into the general fund of the State Society, and the withdrawal of the referendum.

Motion seconded.

DR. FIEDLER: Now that includes a 4/5 vote.

DR. A. E. BACHHUBER, Mayville: Question of information. Will that cover medical defense?

MEMBER: No.

DR. BACHHUBER: Will that put it up to the society that the dues are $10 without medical defense? That is all I want to know.

SECRETARY SLEYSTER: Yes.

DR. BACHHUBER: That would make $12 if medical defense was retained?

SECRETARY SLEYSTER: For those that want to pay it.

DR. G. WINDESHEIM, Kenosha: Before you can act on this motion of Dr. Fiedler, you have to rescind the action of the society in accepting the report of that committee.

PRESIDENT: Yes, it would seem so to me.

DR. OTHO FIEDLER, Sheboygan: I move we reconsider the vote on the resolution for increasing the dues by referendum.

Motion seconded.

PRESIDENT: It is moved and seconded we reconsider the vote upon the referendum. Are you ready for the question?

Calls for the question.

PRESIDENT: All in favor will signify by saying, Aye. Contrary, No.

Motion unanimously carried.

DR. OTHO FIEDLER, Sheboygan: I move you now that we strike out of the report of the committee those clauses referring to a referendum vote on the increase of dues.

Motion seconded.

PRESIDENT: It is moved and seconded that we strike out these words in adopting the resolution of the committee for a referendum vote. Are you ready for the question?

(Calls for the question.)

Motion put and unanimously carried.

DR. OTHO FIEDLER, Sheboygan: Now, I would like to make my original motion that was out of order, that the House of Delegates, in annual session assembled, raise the dues of the State Medical Society to $10 per annum, exclusive of medical defense, one dollar of which is to remain in the county treasury and the $9 to go into the general fund of the State Society.

DR. P. E. RILEY, Eau Claire: I rise for a little information. Personally it makes no difference to me about this medical defense, but if it is a voluntary affair, does our medical defense policy protect those members, that 25% that you mention.

SECRETARY SLEYSTER: No, it does not.

DR. RILEY: They receive no protection?

SECRETARY SLEYSTER: . . No, just those who pay into it.

PRESIDENT: Let me explain a little. The probability is that our medical defense, as it was passed, obligated all of the members of the society to pay their share of it, but it was by common consent, members who did not wish to pay it were excluded, so that it became practically voluntary; that has been simply the practice, it is probably not quite legal, but it was the only way to settle a serious difficulty, looking at it in just this way, that the members who did not pay it would get no benefits from the defense, those who did it would get a benefit; so that fund has always been kept as a separate fund, handled as a separate fund and not used for any other purpose.

DR. G. WINDESHEIM, Kenosha: Before you take a vote on that motion of Dr. Fiedler, I should like to draw Dr. Fiedler's attention to the fact that some county societies have $2 annual dues from their members, some have one dollar, some have more than two dollars. Now, if you state that the dues for the medical society should be $10 and $1 retained for the county society, it might not suit some of the county societies that pay $2. I think it would be best for Dr. Fiedler to

amend his motion to have it just the amount that is supposed to be paid in by the county society to the State Society, and not mention anything about what the county society should retain. Let them do as they please about their dues.

Dr. Fiedler: I will accept that change very gladly, make it $10 for the State Society.

President: $10 for the State Society, and let them raise whatever they want.

Dr. Fiedler: $10 for state dues.

Dr. B. E. Scott, Berlin: Mr. President, I second the motion of Dr. Fiedler as amended.

President: I think it was seconded, but however, it is all right.

Dr. Moe: Does that mean that $10 goes to the State Society and the county gets nothing?

President: $10 goes to the State Society and let the county societies raise what they choose for their own purpose.

Secretary Sleyster: Mr. President, I should like to discuss that just a minute. I think that a due of $10 is more than we are going to need for the State Society. I think we can get along on less money than that. I do believe, however, that the State Medical Society should have a reserve fund on which to draw in case of emergency. I know that other state societies have accumulated from twenty to fifty thousand dollars, and have it in their treasury. It would be a mighty nice comfortable feeling to have something like this. If we find we are accumulating a reserve, a yearly due of $10 is not needed, and it can be reduced by some future House, or the House of Delegates at this session could leave this with the Council empowered to reduce it from $10 to $8 or $7, as the needs may be, after they have fixed a budget.

Dr. Otto Fiedler: The House of Delegates though, by the constitution is empowered to change it, and only the House of Delegates.

Secretary Sleyster: Would it not be better to leave this motion at present empowering the Council to raise the dues to $10, if, after making their budget, they find it necessary.

Dr. Fiedler: According to the constitution you have got to do it by a 4/5 vote of the House of Delegates.

Dr. H. E. Dearholt, Milwaukee: I would suggest it be raised by the House of Delegates to $10, but I do not think that anybody would object to delegating to the Council the right to reduce that $10 to $8 if the council, after making this budget that has been provided for in the resolution, deems that $8 is all that is necessary or advisable.

Dr. Joseph Smith, Wausau: Was that resolution to raise the dues to $10 passed by a 4/5 vote of this body?

President: It has not been passed yet. We have not voted. The motion before the house is to raise the dues to $10, allowing the county societies to raise as much more as they need for their own use. As I understand the motion, that is the way it stands.

Dr. M. R. Wilkinson, Oconomowoc: In view of the fact that Dr. Sleyster thinks that that is more money than we will need to run the society, it seems a whole lot nicer to make the $10 cover all, than to break another $5, and I am really in favor of Dr. Fiedler's original motion. I think it will go over stronger than the $11 proposition.

Dr. T. W. Nuzum, Janesville: I believe the doctor is right. You are absolutely doubling your fee when you drop out that medical defense. I think it is proper, however, to let them have one dollar for the county society. In our society we have to double up that a time or two during the year, then we have to double when we need it for a banquet. With some that would not make much difference; with others it would make a good deal of difference. And if you are going to lose a hundred or two from the society you won't be as far ahead as you are figuring upon. I think the original motion for $10, leaving the county $1, would be quite a sufficient raise at this particular time. And if you find you need more funds then you can raise your $5 by asking for it and a great many would be willing to give the extra five dollars without being forced to do so.

Dr. M .R. Wilkinson, Oconomowoc: I think that you are never going to have a strong medical society until you have a financial backing for it; and your society will grow in strength just as your financial reserve grows in strength. You are just going along on the ragged edge all the time, and are not trying to do things, because you haven't the means. We can develop the strongest society in Wisconsin of any state in the Union, if we just get back of it and raise the funds to do the things that need to be done. Perhaps they will object to the raise, but I think if they understand, they will be willing to pay it. If you put it up to a bunch of doctors that the Hod Carriers Union are paying a dollar a month, they will appreciate that they are certainly earning more than the hod carriers are and getting more out of their organization, or at least as much as the hod carriers get out of the Union, and they ought to be willing to come accross.

Dr. T. W. Nuzum, Janesville: The hod carriers have a fund, and when a strike is on they are paid so much during the strike. The doctors never go on a strike, and haven't the need for funds in that way. I still maintain that $10 is a pretty good raise at this time.

Dr. A. H. Bachhuber, Mayville: It is a good deal easier to get $10 out of a man than it is to get $11. Many a fellow would balk at $11 or $12 where he would not consider $10. If we could make it for the state and county society both I think that would be right. That one dollar would not make much difference, but it is gaining an end.

Dr. Edward Evans, La Crosse: Well, let us make it $10. I was trying to make it easier bookkeeping for the Treasurer.

President: Make it $10 for the State Society?

Dr. Bachhuber: Including the State Society.

President: That is the motion before the House. The chair would entertain a motion to amend the motion if it is necessary.

Dr. T. W. Nuzum, Janesville: That motion has not been seconded, as I understand it.

President: Yes, it has been seconded.

DR. EDWARD EVANS, La Crosse: What was the original motion?

PRESIDENT: The motion as it is, is $10 per member from each society for the State Society, and the society is to raise their own funds in addition. That is the motion as it stands now. Are you ready for the question?

(Calls for the question.)

DR. M. R. WILKINSON, Oconomowoc: This is on the amendment?

PRESIDENT: There has been no amendment.

DR. WILKINSON: $10 for the State Society?

PRESIDENT: Yes.

DR. WILKINSON: Including $1 for the county?

PRESIDENT: No, that was left out; it was $10 for the state society.

DR. WILKINSON: I see. I move to amend that, that the $10 will cover the dues to both the State and County Society.

Amendment seconded.

PRESIDENT: You can vote on the amendment if you are ready for the question.

DR. T. E. REDELINGS, Marinette: What is the one dollar?

DR. OTHO FIEDLER, Sheboygan: One dollar for the county.

DR. T. J. REDELINGS, Marinette: I would like to remind the House of Delegates that the dues in the different counties differ, and a blanket vote that the dues of the State Society be $10, including the county society dues, would cause confusion. There must be a declaration in this motion naming a specific sum for the county society, and I would recommend that that be $1. Then if any county chooses to conduct its affairs on a more liberal scheme, they may assist themselves and adjust their dues according to their own notions and desires. The amendment as it now stands will add confusion, and will not help the situation.

PRESIDENT: Well, the amendment is before the House just now.

SECRETARY SLEYSTER: Mr. President, I do not think the House of Delegates has any right to fix dues for the county societies. Each county society fixes its own dues, and I think we ought either vote on and decide whether the house wants to fix the dues for the State Society at $9 or $10 and let the county societies decide what their dues shall be. Most of them have dues of $1, so they could get in on the $10 proposition, but I think it would be better to amend that it be $9 instead of $10.

DR. G. WINDESHEIM, Kenosha: Mr. President, the Secretary is correct. The House of Delegates has absolutely no right to fix the fees for the county societies. The House of Delegates can make an assessment on all of the members of the State Society, but they have no right to fix the fees for the county society.

PRESIDENT: I think that is right.

DR. M. R. WILKINSON, Oconomowoc: With the permission of the second and the House of Delegates, I withdraw the amendment I made.

PRESIDENT: Then the motion stands for $10.

DR. M. R. WILKINSON, Oconomowoc: I also move that it be expurgated from the record, the whole proceedings, to save typing.

PRESIDENT: Leave out that amendment. Now, you understand the question. Are you ready for the vote?

DR. S. G. HIGGINS, Milwaukee: Read the question.

DR. A. H. BACHHUBER, Mayville: That $10 includes the county society, but we are practically fixing the county society dues.

SECRETARY SLEYSTER: We are voting on the State Society dues.

DR. BACHHUBER: Make it $8 or $9, whatever the amount is.

SECRETARY SLEYSTER: Offer an amendment. Make it now.

DR. A. H. BACHHUBER, Mayville: I move to amend that the dues to the State Society be $9 a year, disregarding the local county society.

DR. OTHO FIEDLER, Sheboygan: I will accept that amendment.

PRESIDENT: That amendment is accepted by the mover. It is not quite parliamentary, but I think it will go.

DR. FIEDLER: With the consent of the second.

DR. B. E. SCOTT, Berlin: I will consent to that amendment.

PRESIDENT: The motion before the House now is to make the dues $9, exclusive of everything else.

DR. B. E. SCOTT, Berlin: Exclusive of medical defense.

PRESIDENT: Are you ready for the question? All in favor of this motion will say, Aye. Contrary, No.

Motion unanimously carried.

DR. G. WINDESHEIM, Kenosha: Mr. President, I think under the circumstances a 4/5 vote being necessary, it would be well to take a rising vote.

PRESIDENT: Perhaps that would be well. All in favor of the motion—this is $9 remember—will rise.

Unanimously carried.

PRESIDENT: All opposed rise. It is carried unanimously.

DR. EDWARD EVANS, La Crosse: I rise for instruction, inasmuch as all this has been rescinded, is it still necessary that the councillor from each district go before the county society in his county between now and the 1st of December?

PRESIDENT: No, that is rescinded.

SECRETARY SLEYSTER: I think he ought to do it.

DR. B. E. SCOTT, Berlin: It is, in relation to discontinuance of the medical defense.

DR. OTHO FIEDLER, Sheboygan: I think that is a very important thing for the councillor to do, and to point out to the county society exactly why we need this increase of dues, that is, for the full time secretary and for this legislation; I believe it would have more general support in the society if this explanation was made.

DR. EDWARD EVANS, La Crosse: I would like to have the House of Delegates instruct me how I am to get to those. You may ask for a meeting, call a meeting, and the members will not come. They are like some of the banners at the time Bryan was running for President.

The legend under it was, "You can lead him to the trough, but you can't make him drink". I have tried over and over again to get some of our county societies together, and cannot do it.

DR. M. R. WILKINSON, Oconomowoc: I think a write-up in the Journal repeatedly given will reach more members and do more good than the councillor can do by getting a meeting of a limited number.

PRESIDENT: It will not reach the members that do not read.

DR. WILKINSON: The other would not reach the members who do not come.

DR. A. H. BACHHUBER, Mayville: They can all read but they all will not come.

DR. MOE: Could not the Secretary send out a circular letter to each man, explaining why the dues were raised? Would not that be possible?

SECRETARY SLEYSTER: The Secretary will do that, Dr. Moe.

PRESIDENT: The Secretary says that he will do that. That will be all right, will it not?

DR. MOE: Yes.

PRESIDENT: Is there any further business, gentlemen?

DR. T. W. NUZUM, Janesville: Mr. President, our councillor Dr. Brown, is not present, and I wish to present a matter. Green county has not had a meeting for two years, and the other day they called a meeting, and I went out there and found only three or four present. They find it absolutely impossible to get a meeting there. The members in the eastern part of the county, the live men, want to join our Rock County Medical Society very much, and I wondered if any arrangement can be made whereby we could take them in as members. They are getting no benefit as it is, and we have a large society in our county and they would make very good members, and we would be very glad to have them join if they can do so.

PRESIDENT: It is very probable there would be no difficulty in making an arrangement of that kind, if the other county society will give them a release, and they join your society. That is being done, isn't it?

DR. T. W. NUZUM, Janesville: How would the application be made?

SECRETARY SLEYSTER: The constitution provides that any of those members may petition their county society for release and permission to join your society, and if their county society will release them they can do so. I think it would be much better, however, if your councillor will get them together and join them; that will maintain the organization in Green county, whereas if you take the best of the members away they will have no organization at all. Thereby Rock county will absorb Green county.

DR. T. W. NUZUM, Janesville: That is the difficulty. I think your councillor ought to see they are joined.

PRESIDENT: We have a society here, the Green Lake-Waushara-Adams County Society that has several members from Fond du Lac county, and we never hear of any members from Adams county. I don't know as we have any. Dr. Scott, do we have any from Waushara county?

DR. B. E. SCOTT, Berlin: We have some from Waushara.

PRESIDENT: We have a few from Waushara county and a few from Fond du Lac county, so we have a fairly respectible society. Is there further business?

DR. OTHO FIEDLER, Sheboygan: I move that we adjourn.

Motion seconded.

DR. M. R. WILKINSON, Oconomowoc: When will we get a report from the Medical Defense Committee?

DR. FIEDLER: The report is in.

PRESIDENT: It is published in the book.

DR. M. R. WILKINSON, Oconomowoc: If we are going to ask the members whether they wish to continue the medical defense or not, it seems to me that this body should take a vote and see whether the majority is favorable or unfavorable towards it.

DR. HIGGINS: The majority of the delegates themselves.

DR. WILKINSON: Vote on that question.

DR. A. H. BACHHUBER, Mayville: Yes, and express its sentiment.

DR. B. E. SCOTT, Berlin: This body has already adopted a recommendation from the committee to discontinue it, and that it be put up to them by a referendum. We have already expressed our own opinion.

DR. WILKINSON: Then that is all right.

SECRETARY SLEYSTER: I think we have the business cleaned up so it will not be necessary to meet tomorrow. The election of officers occurs Thursday morning. The House of Delegates will have to be called to order Thursday morning. The program starts at 8:30, so it will be necessary for us to begin at 8 o'clock. Probably the best place would be down at Thrasher's Opera House, where the program will be held. The next meeting of the House of Delegates will be Thursday morning at 8 o'clock at Thrasher's Opera House.

DR. JOSEPH SMITH, Wausau: Mr. President, I see Dr. Reineking is here. Would it not be a good idea to get a little information about this medical defense from him?

PRESIDENT: Certainly, if you waive the motion to adjourn, it is always in order.

DR. OTHO FIEDLER, Sheboygan: I will withdraw the motion.

PRESIDENT: Dr. Reineking, we want to talk about the medical defense matter and want to ask some questions, learn what you have to say and recommend.

DR. H. REINEKING, Milwaukee: It has been impossible to get all the details from our attorney up to today. His office force has been on a vacation, and he himself has been on a vacation, and while I asked him repeatedly during the last two or three weeks, and told him that I would have to have it by a certain date, I have not been able to get his detailed statement.

The year has been a very active one, that is, we have had a large number of cases, and they are still coming in pretty lively; but I think the total expense for this year will be about four or five hundred dollars less than we had to voucher for last year.

There are certain difficulties that we find in connection with this work. One is the multiplicity of things. As

to insurance, I will say it is a matter that is difficult to adjust. About half of our members—at least half of those who apply for our assistance, carry other insurance. The insurance company contracts with the member to defend him in case of malpractice and to pay all expenses of the defense. It seems to me that in a case where a man carries insurance of that sort, the Society should pay no part of the expense of defense, except that when desired we furnish the services of our attorney, in addition to the attorneys who may be already employed. There is another puzzling question comes in, for the reason that in many cases the attorney for the society is also the attorney for the insurance companies. Now, those are situations that I am merely bringing before you. And the committee, I am sure, whoever may be on the committee this coming year, would be glad to have suggestions with regard to those things. It is difficult for the committee to formulate very definite rules. That is one of the most difficult propositions that could come up, just what stand we should take. We want the members to feel that the defense is for their good. We want them to feel that the committee wants to assist them in every way that is within their power. At the same time we do not want to take the burden off the shoulders of the insurance companies and pay out our money when the insurance companies should pay it. They are insuring the men for the sake of making money, and ours is purely a mutual matter, you all very well know, without any profit to any one, or without any financial gain to the society. So if any of you can give us any suggestions along those lines, they will be gratefully received.

The matter of the payment of dues is another difficult one. For instance, a man performs an operation, say, in the month of April; it happens that at that time he has not paid his annual dues, may be in midsummer he is threatened with a suit, and he immediately remembers that he has not paid his dues, and sends them in to the treasurer of his county society. The dues are received and duly credited, and he has his receipt, and he has probably been legally reinstated, his name appears upon the roster of the society as a member, but at the same time if we wanted to follow our rules to the letter such a man could not get the aid of the defense. There are several of those questions in which we find it very difficult to follow the rules literally.

There is no doubt that this defense system feature does a great deal of good, generally speaking; on the other hand, there are cases which seem to cost an excessive amount. I just got an informal list today of the bills; I have not received the bills themselves or the detailed statement, but did receive an informal list, and I notice that in one case of fracture it has cost the society nearly $1600 to defend it. There was a verdict rendered in 1920 for $1800, and was sustained by the Supreme Court. We have paid almost as much—that is, the society has paid almost as much for the defense as the verdict amounts to. I do not know whether in that case there was any insurance; it was not mentioned in the correspondence So those cases sometimes make me a little doubtful, but still there is a strong deterrent to attorneys and others from the bringing of malpractice suits. And as stated in our annual report, so far as I could find out or am aware, there wasn't any money awarded during the year. The only unfavorable result was the one in the supreme court where this verdict, which was awarded in 1920, was upheld by the supreme court, and that is the case in which so much money had to be spent in the defense. But it is impossible to limit the expense very much. You want above all a good attorney, and if you have a good attorney you cannot be talking to him very much about keeping down expenses. He has to go to necessary expense, and he has to have his per diem etc., and while it seems that the amounts are quite high in certain cases, I have not been able to work out any plan by which we can get along cheaper. At the same time, I think that for this year the dues which go towards this fund will more than cover the three thousand and some dollars that we will have to pay for services, as far as I can figure out.

President: Dr. Reineking, it seems on the part of the members here there seems to be quite a feeling that it is not best to continue; that about 75% of the membership pay the assessment for the defense; and as you say about 50% of those who bring suits in cases where suits are brought have other insurance; and I think the membership would like to hear you talk on that question and see if we can clear it up.

Dr. H. Reineking, Milwaukee: Yes. Dr. Lotz, who is chairman of the committee, and I have discussed this matter, and we were considering strongly the sending out of a questionaire to all the members of the society. However, we thought that by doing so we might arouse questioning or dissatisfaction, etc., and so it has been postponed from time to time. I have all the correspondence at the hotel here, and whenever a doctor applies he is asked to send a statement of his case and give the time when the services that are complained of were rendered, and also to state whether he carries other insurance. In about half of the cases, I think a little less than half of the cases during the last year, the members who were threatened or had suits on their hands, stated that they had other insurance. Now, on the one hand, I feel a good deal, as I have already said, that very few men get what is called a benefit, and some cases are almost indefensible at the best; but it is impossible to know that until the case is tried; we do not know just what testimony is going to be brought out, otherwise we might recommend in such a case as that I have referred to, which is a case that should have been settled by some one, because here was an $1800 verdict and about $1600 of expense on the part of this Society. If there had been some representative in that part of the state who could have investigated that case and gotten all the facts, the case might, perhaps, have been settled. But on the other hand, I feel a good deal as Dr. Windesheim said a year or two ago that he felt, that we had paid these one or two dollars a year for a number of years, and had never felt the need of it, or missed it, and as he said, it helped many another man along

when he was in stress, and I think that the existence of the defense itself is a strong deterrent for those who are inclined to bring these suits. They know that if they go into court they are up against a good, first class fight with all the technicalities at hand that are at all available. The lawyers know that, and while the same defense can be brought by the insurance companies, it is no doubt a great help to the profession in general in the state. However, as I said, doubts have arisen in the minds of the members of the committee also, and I would be very glad to have the House of Delegates or the Society express itself again on the subject. If there are any other questions I shall try to answer them.

DR. MOE: You say in the last four years they only lost two cases. How many cases have they tried in the last four years?

DR. H. REINEKING, Milwaukee: I cannot answer that offhand. There probably have been on the average about 12 or 14 complaints or threats of malpractice suits. This year there were more, I think 17. Now, of those cases many of them never came to trial, they were mere threats, what do you call it, a little blackmail.

DR. MOE: How many actually came to trial that they have tried and won or lost in four years, would you say offhand?

DR. REINEKING: Oh, a good number.

DR. MOE: They lost two, you say, would you say 50 possibly?

DR. REINEKING: In the last four years? Oh, there have been only a little more than 50 cases in those four years, and half of them have not been tried, I believe, but I have over at the hotel the reports, brief records of their services during the last year. I can bring that over in 5 minutes.

DR. MOE: Didn't they settle it out of court?

DR. REINEKING: Well, some cases have been won during this last year, and a good many cases have been dismissed. I don't remember any of them from former years he tried this year, but there wasn't a single case lost. I would be glad to get that book, I can get it in five minutes. A good many cases are dismissed after trial is begun, they getting a directed verdict, or the cases are dropped. If I had known anything was coming up I could have brought considerable information of those things, and I could have brought the correspondence I had with this doctor.

PRESIDENT: Here is the report of the Council on medical defense for the year ending July 31, 1922. It says, during the past year 17 requests for assistance were received, and in one instance two members were threatened by the same plaintiff. This leaves net 16 cases, a slightly higher number than the average previous years. Five of these cases have already been disposed of, 3 by dismissal and 2 by verdicts for the defendants; and most of the remaining ones will never come to trial.

DR. H. REINEKING, Milwaukee: Here were five out of 17 cases disposed of. Of the 17 cases reported to the committee during this past 12 months, 3 were dismissed, that means, dismissed by the court, as I take it, no one else could dismiss them, and two were won, verdict for the defendants gotten. That leaves 12. And many of those will never come to trial. That is the work of the past year.

PRESIDENT: Gentlemen, would you like to have Dr. Reineking bring over his book?

DR. EDWARD EVANS, La Crosse: He might have them at the adjourned meeting Thursday morning at 8 o'clock.

DR. H. RIENEKING, Milwaukee: I will leave all the records here that I have with me; I shall probably not be here myself on Thursday, but I could show you the year's work performed by the attorney in a very few minutes, if you care to wait until I get the book.

DR. EDWARD EVANS, La Crosse: I move that we adjourn.

Motion seconded.

Motion put and carried.

Thursday morning, September 7, 1922, 8 o'clock.

Meeting called to order at Thrasher's Opera House, 8 a.m. by the President, Dr. S. S. Hall, Ripon.

PRESIDENT: What is your pleasure, gentlemen?

SECRETARY: The first order of business is the report of the Nominating Committee, Mr. President.

The reading of the minutes of the previous meeting were on motion duly seconded and carried, dispensed with. The report of the Nominating Committee was presented by Dr. Walters as follows:

President, F. Gregory Connell, Oshkosh.

Vice-president, A. J. Wiesender, Berlin,

Second Vice-president, Dr. J. L. Yates, Milwaukee.

Third Vice-president, Dr. E. E. Tupper, Eau Claire.

Councillors:

5th District, Dr. O. B. Bock, Sheboygan.

11th District, J. M. Dodd, Ashland.

12th District, Dr. H. E. Dearholt, Milwaukee.

Delegates to A. M. A.:

Dr. Rock Sleyster, Wauwatosa.

Dr. Horace M. Brown, Milwaukee.

Alternates to the A. M. A.:

Dr. W. E. Bannon, La Crosse.

F. Gregory Connell, Oshkosh.

We also recommend that the next annual meeting of the Wisconsin State Medical Society be held at Milwaukee, Wisconsin.

Respectfully submitted,
THE NOMINATING COMMITTE.

PRESIDENT: What is your pleasure, gentlemen? Are there any further nominations?

DR. OTHO FIEDLER, Sheboygan: Mr. President, the suggestion was made at the meeting of the committee that we want it understood, of course, that these nominations do not preclude the possibility of other nominations, and if there are any nominations to be made from the floor, we will be glad to have them made.

PRESIDENT: Are there any further nominations? Are you ready for a vote? A motion is in order.

DR. M. R. WILKINSON, Oconomowoc: Mr. President, I move the adoption of the report of the Nominating Committee.

Motion seconded.

Motion put and carried.

Dr. Otho Fiedler: I move you, Mr. President, that the Secretary cast the unanimous ballot of the House of Delegates for these nominees to that office.

Motion seconded.

Motion put and carried.

President: Is there any new business to come before the House of Delegates?

Dr. Joseph Smith, Wausau: Mr. President, what shall we do about that medical defense? Is that left for referendum now, or what are we going to do?

Secretary Sleyster: It was left to the referendum.

Dr. M. R. Wilkinson, Oconomowoc: Is it in order to receive the report of the auditing committee on the Treasurer's books?

President: Yes.

Dr. M. R. Wilkinson, Oconomowoc: The Auditing Committee begs leave to report that the committee has examined the vouchers and report of the Treasurer, and finds them correct.

Dr. T. W. Nuzum, Janesville: I move you that the report of the Auditing Committee be accepted.

Motion seconded.

Motion put and carried.

President: Is there any further business?

Secretary Sleyster: I move, Mr. President, we waive the reading of the minutes of the last House of Delegates.

Motion seconded.

Motion put and carried.

Secretary Sleyster: I would like to get an expression of you men, on what you want from the university. We have a fund of $5000, every two years, for postgraduate medical instruction. We have been doing the best we could with it without any definite expression of opinion by the men of the state. The state of Wisconsin is appropriating this money to give the physicians of Wisconsin postgraduate instruction, and it is being done at the request of the House of Delegates. I have been disappointed that the general membership of the society has not shown more interest. We have for three or four years furnished lecture courses. Last year there were motion pictures.

Dr. Otho Fiedler, Sheboygan: The suggestions growing out of this symposium on chronic diseases, might be a good one.

President: I think this is a matter that should be encouraged. Our little Green Lake-Washara-Adams County Society, has had clinics now for two years. Last year we had them during the summer. This last year we had them every month during the year, winter and summer, at an expense to the membership of $12 per for the year, and it has been very interesting and practical. There have been quite large clinics, and I never saw so many goiters together as we got in Berlin on our goiter meeting. It seemed as though all the people up around Berlin had goiter at one time or another. I think it is of great value to the practitioner to have instruction of that sort. We get the patients in and examine them, and it gives us a privilege we never enjoyed before in our county, and I cannot see why all the county societies should not avail themselves of the opportunity to take their course of instruction.

Dr. Edward Evans, La Crosse: I don't know how we are going to do it. I wrote letters to all our county secretaries, advising them of that fact, and it is awfully hard to get a reaction.

Secretary Sleyster: Is there anything more practical we could offer?

Dr. Edward Evans, La Crosse: We tried to get a district meeting this year and failed, did not have a representation. They had the movies there, and they did not seem to be very enthusiastically received.

Dr. Redelings: What were they, the films?

Dr. Edward Evans, La Crosse: Yes, some obstetrical films. The members out in the country are scattered, and it is only a few square miles, and they could get together and have a little meeting every month. I do not see why all the county medical societies could not do it.

Dr. Greeley, Madison: I am pretty familiar with the workings, and they seem to fall down in those places where it is impossible to get clinical material. In a great many counties the men seem distant about bringing in cases, probably because they do not wish to be shown, and probably they have been taking care of somebody else's patients a little while before and they do not want to show the patient. I think a large part of the success of the proposition is getting the clinical material, because that really is the way to teach postgraduate methods. I am glad to know that up in Dr. Hall's section they have the clinical material, because very often that is the thing they have woefully fallen down on.

President: We always have cases if you can get them out.

Dr. Greeley: If somebody could have some ideas as to how to have the men bring down their clinical material, I think it would make a difference between a great success and perhaps a mediocre success of the meetings.

Dr. Edward Evans, La Crosse: I made a suggestion I think might be applicable to our society, and that was that the hospital have a staff organization at least, and once a month or so clinical days, when they invite in from the surrounding county all the men in that territory, and especially the men working in that hospital, to come in and just have a clinical day. The cases in the hospital are gone over, and they get the things not only in regard to the sick room diagnosis, but also the laboratories. I think it was Dr. Stovall who said he had three sets of materials in the laboratory, methylyn blue, the gram stain and the blood stain, and had practically all the materials needed to run a good laboratory. I wish we could get the men to come in and see how easy it is to have a laboratory that they can use as easily as we can for clinical work. I am going to try this coming year to have all the men bring cases in occasionally and visit us and come in.

President: If our hospitals throughout the state would establish a clinic for the profession, say once a

month, or once in two months, I think it would accomplish a great deal. There is another point I did not mention. Our clinics have certainly created a better feeling of association among the members of the Society. You know if a man is all alone in his practice eventually he is going to quarrel with somebody, and if there are two men in a town they are enemies. They get all over that. We have our dinner at a hotel, we eat salt together, and apparently the feeling is good. They get together. Men who would not speak to each other on the street will get together there and converse.

Secretary Sleyster: There ought to be more ways to spend this money. The principle is right. The state of Wisconsin should finance postgraduate work for the medical profession, and if we take hold of this thing and see it through, we can get anything we want, but it is going to take some expression as to what we do want.

Dr. Edward Evans, La Crosse: I made a suggestion just now. I think the delegates to the council here, that the delegates and councillors collaborate with you in getting out the Journal. I did make the suggestion once that each councillor write an editorial. Dr. Wilkinson here had some ideas, and I said, when you go home write an editorial and let us have it in the Journal.

Dr. M. R. Wilkinson, Oconomowoc: Along this line, if the members of the council are perpetuated in office, the range of the Society is limited. The merits of the members are not limited to a dozen men, and there is no earthly reason that I can see why they should go in year after year or term after term. Furthermore, with the present advance in the dues, new blood in this council and new blood coming in from time to time is going to eventually work 2/3 of the Society through the Council, and we are going to have a better organization. Let them all go through the mill and they will know more. I know when I get off the council I will know more about it than before I went on. And they will be satisfied members of the Society. We have a great many kicking. I believe that throughout the Society there is a little opprobrium attached even to a councillor; he gets no credit for being councillor, he is a medical politician. I am tired of that criticism.

Dr. Joseph Smith, Wausau: Another point in that respect is this: Here are 72 counties in the state of Wisconsin, and each is supposed to have a delegate. When we got there the other night we had a poor attendance, showing that the rank and file of the county societies throughout the state are not represented. I think that is entirely wrong, and it is unfortunate. At the meeting of the American Medical Association there were 122 out of 150 some delegates registered, I believe, at the first session. Now, our organization is not sufficiently democratic. We hear that criticism made all the time, it is run by a few men. It is that way, because if it were not run that way it would not be run at all. That is true, but unfortunately we don't get the support and the interest of the rank and file of the men throughout the state. I think we ought to make some effort to get the delegates here, to get the county societies to elect men who will come. We ought to have 50 or 60 men here at the meeting of the House of Delegates, then our meetings would be really representative and each county society has a representative on the floor of the House of Delegates, and that county society takes the responsibility for whatever is done in the House of Delegates. But when we get down here with a poor attendance, they feel that it is run by an inner circle, and therefore is not representative of the rank and file of the profession. I think our first effort should be to get a good representation in the House of Delegates. There is where we fall down.

Dr. Edward Evans, La Crosse: My impression has been we were really too democratic. The trouble in our county medical society and the other county medical societies in our district is that there is a bigger clique within the county medical society by far then there is in the State Medical Society, and it is to beat some group that a man is elected, or something like that. I know that as far as our own county medical society is concerned, they never consider for a moment whether the man they elect for delegate or alternate is going to be at the next meeting or whether he was at the last meeting.

Dr. T. W. Nuzum, Janesville: The Tri-State Medical Society has been a wonderful success, and it has been a wonderful success, because they have clinics there that appeal to the every day practitioner. Our county meetings will be a success when we apply that same rule and have clinics and material there, and have some good man come and demonstrate it. We can always get the material and always get the crowd out. It seems to me if we run our State Medical Society along the lines that have been adopted by the Tri-State it would make it a humming society. I do not know why we do not.

Dr. A. E. Bachhuber, Mayville: The difference is that a great many problems come up in the State Society that the Tri-State hasn't got. We have problems we are directly interested in, and the Tri-State has not such. It is a different proposition, and makes it harder for the State Society, which is trying to formulate legislation and matters of that kind.

President: I think the greatest element of success has got to be the sociologic problem. We have got to get together. Take a man that is off by himself, as Dr. Osler said, he gets to be a dangerous animal. He depends very much on his personal experience, which is absolutely valueless, and if you can get them to rub against each other, one learns from the other. If we had something that would take the place of a field secretary, if possible, and get out in the county among the physicians and get them together in the towns and villages, I think possibly we might overcome the difficulty.

Dr. Edward Evans, La Crosse: I think that will be overcome if we can get a full-time secretary.

President: He could do something in that way, a man that is paid for his work and spends his time; it is going to take a lot of push.

Dr. Joseph Smith, Wausau: In our county the postgraduate work has been all right. We have had clinical meetings and evening sessions and have a lecture and

perhaps a paper by some local man, and we have been able to get out nearly all of our members at most of the meetings. We have carried this on, I think, for at least three years.

Dr. Greeley: Isn't it true that many of the counties are handicapped, because they can get men for nothing? They can get Chicago men and Minneapolis men, and they feel that the outside men can do more.

Dr. Edward Evans: I think that is the trouble with our county medical societies. That is all we have been trying to do.

Dr. M. R. Wilkinson, Oconomowoc: I think the falling down in the work of the county medical societies is due to a lack of a balanced program. Waukesha county has had a very fine year in its meetings. At the beginning of the year a program committee is elected or appointed whose duty it is to make programs, naming the place for each monthly meeting and the man who is to present the paper. That gives him fair warning, and as the months roll around each man is supposed to have his paper ready, and it is an exceptional thing to fail. The extension work of the University postgraduate work I think has been unfortunately taken up with the wrong thing. First, I think the films showing obstetrical work which we have all been doing, and I have been doing 28 years, and I run across about everything I expect to run across in my life in that respect; I would consider myself pretty well posted in obstetrics; there are other things in which we fall behind, for instance, laboratory work, and I think if the next work in the postgraduate course would be to take up laboratory work and teach us something new, it will make a hit throughout the state. For instance, the men who have been busy have naturally lost out on some of the advance, and we want men to come to us and teach us something new.

President: They have lanterns and exhibits in this University clinic that we get a good deal out of. Then we have one or two t. b. clinics a year, which I think have done a great deal of good. It has brought the men together, and I think we are making progress slowly.

Dr. Greeley: I think Dr. Evans hit the nail on the head in regard to the county societies. I think if you can get it into the minds of the young men that the society is worth keeping alive, and not go into a maelstrom of politics, get the young men coming in all the time, and make them feel that the promotion of the county society is something they can take care of and boost, just because it is the medical society, not because they get something out of it or to fight somebody. I think we will get along.

President: Is there anything in the way of a motion in regard to these things?

Dr. Joseph Smith: I move that we extend a vote of thanks to the Arrangement Committee and the local chairman of the Program Committee for the entertainment received at Green Lake.

Motion seconded.

Motion put and unanimously carried.

Dr. Edward Evans, La Crosse: Mr. Chairman, there is a provision in our constitution which says that distinguished men who visit us may be made honorary members of this society, and I would like to make a motion and get the sense of this House of Delegates that the men from outside of the state who appear on this program this year be made honorary members of the Wisconsin Society.

Motion seconded.

Motion put and unanimously carried.

Dr. Joseph Smith, Wausau: I move that we adjourn.

Motion seconded.

Motion put and unanimously carried.

MALARIA CONTROL OPERATIONS IN RELATION TO ULTIMATE SUPPRESSION OF DISEASE.

C. C. Bass, New Orleans (*Journal A. M. A.*, July 22, 1922), asserts that malaria has disappeared from large areas in this country and in other parts of the world, chiefly as a result of development of the country, including drainage and clearing of the forest, incident to agricultural and other industrial pursuits. Malaria prevalence is slowly but surely decreasing over practically all of this country as a result of the steady march of civilization and settlement of the country. This process may be aided and hastened by antimosquito measures or by the proper use of quinin. Health agencies are interested in encouraging these measures. Our only present malaria control activities that actually lead to ultimate suppression of the disease are permanent drainage and filling operations. All others are temporary and must be continued indefinitely, or the tendency will be toward a return of former conditions. The cost of intensive antimosquito operations for malaria control is so great that they have not been applied to a sufficiently large part of the total malarious area of the country to affect seriously the total prevalence of the disease. The cost of such malaria control as results from infected persons taking proper quinin treatment does not involve any cost over the amount that would be spent for other remedies. Therefore, it is applicable to the malaria problem of the country as a whole, and should be emphasized and encouraged by health agencies interested in malaria control.

SUDDEN DEATH OF TWO PATIENTS FOLLOWING INTRAVENOUS INJECTION OF ACACIA.

Russel Van Arsdale Lee, San Francisco (*Journal A. M. A.*, Aug. 26, 1922), writes about two patients who died rather suddenly after the intravenous injection of acacia solution. No beneficial effects were observed from its use in these patients. Definite and immediate deleterious effects were observed in at least one, and death was accelerated in both of the patients as a result of the injection of the acacia. This is in accord with the deleterious effects of acacia in animals and man reported by others. It is doubtful whether acacia is an absolutely harmless agent when used in shock, hemorrhage and allied conditions.

LIST OF MEMBERS OF THE STATE MEDICAL SOCIETY OF WISCONSIN, 1922

Abbott, LeRoy, Wilton.
Abelman, T. C. H., Watertown.
Ackerman, Wm., Milwaukee.
Ackley, S. B., Ocoumomowoc.
Adamkiewicz, Jos. J., Milwaukee.
Adams, Geo. F., Kenosha.
Addleman, Irving M., Wausau.
Ainsworth, H. H., Madison.
Albers, H. H., Allenton.
Aldridge, H. W., Manitowoc.
Alexander, Sara W., Cheyenne, Wyo.
Alexander, W. S., Fond du Lac.
Allen, C. F., Middleton.
Allen, Jessie P., Beloit.
Allen, J. S., Norwalk.
Allen, Laurie L., Wauwatosa.
Allen, L. P., Oshkosh.
Allen, Wm. J., Beloit.
Altenhofen, A. R., Wauwatosa.
Altman, Maurice, Milwaukee.
Amundson, Karl K., Cambridge
Amunson, Philip B., Mondovi.
Anderson, F. G., Eau Claire.
Anderson, Harold B., Beloit.
Anderson, Jens, Racine.
Anderson, N. P., La Crosse.
Andrae, R. W., Stevens Point.
Andre, F. E., Kenosha.
Andrew, C. H., Platteville.
Andrew, G. F., DeSota.
Andrews, C. W., Waupaca.
Andrews, Malcolm P., Manitowoc
Andrews, Neil, Jr., Oshkosh.
Andrus, Dell, Ashland.
Antoine, F. J., Prairie du Chien.
Aplin, F. W., Waukesha.
Armbuster, B. F., Milwaukee.
Armitage, John E., Green Bay.
Armstrong, C. A., Prairie du Chien.
Armstrong, C. E., Oconto.
Armstrong, Guy, Pound.
Arnold, F. W., Milwaukee.
Arveson, R. G., Frederic.
Ashley, T. W., Kenosha.
Ashum, David W., Eau Claire.
Aus, Jos. L. N., Deer Park.
Austria, W. F., Merrill.
Avey, Sarah E., Milwaukee.
Axley, A. A., Washburn.
Axtell, E. E., Marinette.
Axtell, Luella E., Marinette.
Aylward, Richard C., Madison.

Baasen, J. M., Mt. Calvary.
Babcock, I. G., Cumberland.
Bach, J. A., Milwaukee.
Bach, Robert J., Milwaukee.
Bachhuber, A. E., Mayville.
Bachhuber, L. M., Mayville.
Baer, A. N., Milwaukee.
Baer, C. A., Milwaukee.
Bair, Francis M., Cuba City.
Baird, John, Superior.
Baird, J. C., Eau Claire.
Baker, Geo. R., Tomahawk.
Baker, Julian C., Hawkins.
Baker, John H., Bryant.
Baker, K. W., Greenwood.
Baker, W. F., Wausau.
Baldwin, F. H., Bloomington.
Baldwin, Geo. E., Green Lake.
Balkwill, C. A., Grafton.
Bancroft, H. V., Blue Mound.
Banks, W. H., Yakima, Wash.
Bannen, W. E., La Crosse.
Barber, J. L., Marathon.
Bardeen, C. R., Madison.
Bardenwerper, H. E., Milwaukee.
Barnes, E. C., Ripon.
Barnes, H. T., Delafield.
Barnes, J. S., Milwaukee.
Barnstein, Chas., Manitowoc.
Barnstein, J. E., Manitowoc.
Barrett, Edward J., Sheboygan.
Barta, Edw. F., Milwaukee.
Barth, G. P., Milwaukee.
Bartran, Wm. H., Green Bay.
Batcheller, Gertrude, Madison.
Bath, Dane H., Oshkosh.
Batty, A. J., Portage.
Bauer, K. T., West Bend.
Baugh, Chas. W., Milwaukee.
Baum, E. L., Milwaukee.
Baumgart, Clarence H., Milwaukee.
Bayer, W. H., Merrill.
Bear, W. G., Monroe.
Beck, A. A., Wautoma.
Becker, B. A., Silver Lake.
Becker, W. C., Watertown.
Becker, W. F., Milwaukee.
Beebe, Chauncey D., Wauwatosa.
Beebe, C. M., Sparta.
Beebe, C. S., Milwaukee.
Beebe, Geo., Eau Claire.
Beebe, L. W., Superior.
Beebe, P. A., Glenwood City.
Beebe, S. D., Sparta.
Beech, Geo. D., Adams.
Beffel, John M., Milwaukee.
Belitz, Alfred, Pepin.
Belitz, Wm., Cochrane.
Bell, A. R., Tomah.
Bellack, B. F., Columbus.
Bellerau, A. R., Iola.
Bellin, Jos. J., Green Bay.
Bellin, Julius J., Green Bay.
Belting, Geo. W., Orfordville.
Bennett, J. F., Burlington.
Bennett, Louis J., Ft. Atkinson.
Bennett, W. C., Denver, Colo.
Benson, G. H., Richland Center.
Bent, Xenna P., Benton.
Bentley, John E., Portage.
Benton, Jos. L., Appleton.
Bentzein, E. W., Milwaukee.
Berglund, Simon A., Marinette.
Bernhard, A., Milwaukee.
Bertrand, Jos. H., De Forest.
Betz, Johnathan C., Boscobel.
Beutler, W. F. Wauwatosa.
Beyer, H., Pittsville.
Bickel, Edwin F., Oshkosh.
Bill, Benj. J., Genoa Junction.
Bilstad, G. E., Cambridge.
Binnewies, Frank C., Janesville.
Bird, H. R., Madison.
Bird, M. D., Marinette.
Birk, Benjamin J., Milwaukee.
Black, Nelson M., Milwaukee.
Blackburn, F. E., Cassville.
Blair, J. C., Hazel Green.
Blankenship, R. C., Madison.
Blanton, Smiley, Madison.
Blekking, J. H., Elkhart Lake.
Blewett, M. T., Markesan.
Blom, Julius, Menomonie.
Blumenthal, R. W., Milwaukee.
Blumer, Edward, Monticello.
Bock, Otto B., Sheboygan.
Bodden, A. M., Milwaukee.
Boerner, R. W., Milwaukee.
Boger, Thomas A., Milwaukee.
Bolton, Ernest L., Appleton.
Booher, John S., Richland Center.
Boorse, L., Milwaukee.
Borchardt, A. C., New London.
Boren, C. H., Marinette.
Boren, J. W., Marinette.
Bornstein, Max, Milwaukee.
Boslough, A. W., Wausau.
Bossard, C., Richfield.
Bossard, M., Spring Green.
Bowen, E. W., Watertown.
Bowen, H. P., Watertown.
Bower, Richard L., Madison.
Boyce, S. R., Madison.
Boyd, C. D., Kaukauna.
Boyd, G. T., Fond du Lac.
Boyden, Wesley L., Seymour.
Boyer, E. R., Rhinelander.
Boynton, R. D., Kilbourn.
Bradbury, E. L., Nellsville.
Bradfield, J. A. L., La Crosse.
Bradford, E. B., Hudson.
Brady, D. L., Bloomington.
Brah, A. J., Milwaukee.
Braun, Otto, Ashland.
Braun, Robt. F., Milwaukee.
Breckenridge, H. E., Racine.
Breed, A. L., Elmwood.
Breeden, Roy F., Richland Center.
Brehm, H. J., Racine.
Brehm, Theodore, Racine.
Brewer, Jay C., Jefferson.
Brey, P. F., Milwaukee.
Briggs, S. J., Madison
Brinkerhoff, F. E., Beloit.
Broache, A. H., Oshkosh.
Brockway, Frank, Oshkosh
Broghammer, F. J., Superior.
Bronson, D. A., Fond du Lac.
Brook, J. J., Milwaukee.
Brooks, E. H., Appleton.
Brooks, Lester M., Milwaukee.
Brown, A. D., Mineral Point.
Brown, E. B., Beloit.
Brown, E. J., Madison.
Brown, Frank E., Milwaukee.
Brown, G. V. I., Milwaukee.
Brown, H. M., Milwaukee.
Brown, I. M., New London.
Brown, J. F., Waupun.
Brown, R. C., Milwaukee.
Brown, S. V. I., Milwaukee.
Brueckbauer, H. G., Sheboygan.
Brumbaugh, E. V., Madison.
Brunckhorst, F. O., Hortonville
Brunkhorst, R. O., Milwaukee.
Bryant, Jesse R., Wausau.
Buchanan, R. C., Green Bay.
Buck, G. C., Platteville.
Buckley, T. J., Briggsville.
Buckley, W. E., Red Granite.
Buckner, H. M., Mt. Horeb.
Bugher, C. E., Ladysmith.
Bunting, Chas. H., Madison.
Burbach, Theo. H., Milwaukee.
Burden, R. M., Green Bay.
Burger, Harry E., Beloit.
Burkhart, E. W., Menomonie Falls.
Burns, Robt. E., Madison.
Burton, J. J., Milwaukee.
Busse, Alfred A., Jefferson.
Bussewitz, M. A., Milwaukee.
Butler, E. F., Mosinee.
Butler, F. E., Menomonie.

Caffrey, A. J., Milwaukee.
Cahana, Stephen, Milwaukee.
Cahoon, Roger, Baraboo.
Cairns, Rolla, River Falls.
Caldwell, Henry C., St. Croix Falls.
Caldwell, Margaret, Waukesha.
Caldwell, T. J., Ladysmith.
Callahan, J. L., La Crosse.
Calvey, P. J., Fond du Lac.
Campbell, Lorne A., Clear Lake.
Campbell, W. B., Waukesha.
Cantwell, W. H., Shawano.
Caples, B. M., Waukesha.
Cargill, N. W., Milwaukee.
Carhart, G. A., Milwaukee.
Carlson, E. S., La Crosse.
Carmichael, Chas. S., Helenville.
Carroll, Jos. H., Milwaukee.
Carter, Homer M., Madison.
Carter, R. M., Green Bay.
Carthaus, A. H. C., Thiensville.
Cary, E. C., Reedsville.
Casey, Merle, Almond.
Cassels, G. S., Pt. Washington.
Caswell, H. O., Ft. Atkinson.
Caughey, C. R., Kenosha.
Cavanaugh, T. E., Milwaukee.
Caveney, Jas. J., Milwaukee.
Chandler, Fremont E., Waupaca.
Chandler, Jos., Pardeeville.
Chapman, F. M., Milwaukee
Chapman, Vernon A., Milwaukee.
Charbonneau, A., Green Bay.
Charbonneau, E., Superior.
Charron, T. A., Rice Lake.
Chloupek, C. J., Green Bay.
Chorlog, J. K., Madison.
Christensen, Emil, Two Rivers.
Christensen, F. C., Racine.
Christenson, J. W., Westby.
Christiansen, Geo., Galesville.
Christofferson, A. L., Kenosha.
Christofferson, A. M., Waupaca.
Christofferson, H. H., Colby.
Christofferson, P. J., Waupaca.
Churchill, B. P., Milwaukee.
Clark, Burton, Oshkosh.
Clark, F. T., Waupun
Clark, Isaac F., Ladysmith.
Clark, Kate, Cable.
Clark, M. H., Ripon.
Clark, R. B., Monroe.
Clark, W. T., Janesville
Clarke, Chas. P., Janesville.
Clawson, H. E., Red Granite
Cleary, Barnard L., Edgerton.
Cleary, J. H., Kenosha.
Clifford, P. M., Green Bay.
Coerper, F. E., Fredonia
Coffey, Chas. J., Milwaukee.
Cohn, Arthur H., Milwaukee.
Coldren, Cassius M., Milford, Iowa.

Cole, C. E., Prairie du Chien.
Coleman, H. M., Barron.
Collins, D. B., Madison.
Collins, W. P., Racine.
Colucci, M. J. J., Madison.
Combacker, H. E., Osceola.
Combacker, Leon C., Osceola.
Combs, C. J., Oshkosh.
Comee, William, Green Bay.
Conklin, Geo. H., Superior.
Coniey, J. M., Oshkosh.
Connell, F. Gregory., Oshkosh.
Conroy, Jno. M., Nopeming, Minn.
Cook, E. H., Watertown.
Cook, F. S., Eau Claire.
Coon, Geo. E., Milton Junction.
Coon, J. W., Stevens Point.
Cooney, E. W., Appleton.
Cooper, C. A., Colfax.
Cooper, E. S., Almond.
Copeland, Ernst, Milwaukee.
Copps, L. A., Marshfield.
Corbett, M. E., Oshkosh.
Corcoran, C. J., Milwaukee.
Cornwall, W. B., Amery.
Corr, J. T., Racine.
Couch, E. E., West Allis.
Coumbe, W. R., Richland Center.
Cowan, Wayne F., Stevens Point.
Cowles, Robt. L., Green Bay.
Cox, J. A., Wautoma.
Cox, Legrand M., Milwaukee.
Craite, Edgar J., Rice Lake.
Cremer, C. H., Cashton.
Crikelair, F. L., Green Bay.
Cristman, E. S., Almena.
Crocket, W. W., Beloit.
Crommett, H. B., Amery.
Cron, C. O., Bagette, Fla.
Crone, Virgil D., Beloit.
Crosby, E. P., Stevens Point.
Crosley, Geo. E., Milton.
Crowe, N. F., Delavan.
Crowell, Dean P., La Crosse.
Cummings, J. H., Superior.
Cunningham, J. N., Stanley.
Cunningham, M. A., Janesville.
Cunningham, R. B., Cadott.
Cunningham, Wilson. Platteville.
Curl, Howard. Madison.
Curless, Grant W., Walworth.
Currer, P. M., Milwaukee.
Curtin, A. L., Milwaukee.
Curtin, J. J., W. De Pere.
Curtis, G. E., Eau Claire.
Curtiss, F. D., Kenosha.
Cushman, A. B., Milwaukee.
Cutler, J. S., Wauwatosa.
Cutter, J. D., Tomahawk.

Dailey, P. J., Elcho.
Dallwig, E. L., Milwaukee.
Dallwig, H. C., Milwaukee.
Dalton, R. J., Milwaukee.
Dana, A. C., Fond du Lac.
Danforth, Q. H., Omro.
Daniels, J. L., Jefferson.
Daniels, L. J., Milwaukee.
Darby, G. S., Brodhead.
Darling, Earl, Milwaukee.
Darling, F. E., Milwaukee.
Darling, Wm. S., Milwaukee.
Davelaar, G. W., Milwaukee.
Davies, R. E., Waukesha.
Davin, Charles C., Kenosha.
Davis, Carl H., Milwaukee.
Davis, Elmer, Boaz.
Davis, F. A., Madison.
Dawson, C. A., River Falls.
Dawson, D. L., Rice Lake.
Dean, J. P., Madison.
Dean, Jos. A., Madison.
Dearholt, Hoyt E., Milwaukee.
De Besch, J. A., Milwaukee.
Decker, C. O., Crandon.
Decker, H. G., Milwaukee.
DeCook, J. L., Angelica.
Deicher, H. F., Plymouth.
Delaney, H. O., Beloit.
Delap, R. H., Richland Center.
Del Marcelle, C. C., Neenah.
Dennis, Jas. F., Waterloo.
Derge, H. F., Eau Claire.
Desbois, P., Marinette.
DeSwarte, L. T., Beloit.
Devine, Hubert, Fond du Lac.
Dewire, M. V., Sharon.
Diamond, J. A., Frederick.
Dickenson, G. H., Milwaukee.
Differt, Chas. C., Milwaukee.

Dike, B. H., Owen.
Dike, Chas. E., Whitewater.
Dill, Geo. M., Prescott.
Dishmaker, D., Kewaunee.
Dodd, J. M., Ashland.
Dodge, Chas. H., Clinton.
Doege, K. H., Marshfield.
Doege, K. W., Marshfield.
Doern, W. G., Milwaukee.
Doerr, Aug., Milwaukee.
Dohearty, F. P., Appleton.
Dohearty, W. H., Peshtigo.
Domann, W. G., Menomonie Falls.
Donnell, J. E., Cuba City.
Douneily, F. J., Monches.
Donohue, E. J., Antigo.
Donohue, M. J., Antigo.
Donohue, W. E., Manitowoc.
Doolittle, J. C., Lancaster.
Doolittle, S. W., Lancaster.
Dougherty, C. F., Richland Center.
Doughty, J. W., Delavan.
Doughty, P. H., Juneau.
Douglas, F. A., La Crosse.
Downing, Dana F., East Orange, N. J.
Doyle, J. H., Little Chute.
Doyle, J. N., Wausau.
Drake, Frank I., Mendota.
Drexel, A., Milwaukee.
Dreyer, R. A., Wheeler.
Dries, Jos., Milwaukee.
Driessel, H., Kewaskum.
Driessel, S. J., Barton.
Drissen, W. H., Pt. Washington.
Duer, G. R., Madison.
Dunn, E. A., Platteville.
Durner, Urban J., Milwaukee.
Dwight, C. G., Madison.

Eagan, R. L., La Crosse.
Eames, H. F., Egg Harbor.
Eastman, Verne E., Wausau.
Echols, C. M., Milwaukee.
Eck, Gust E., Lake Mills.
Edden, R. W., Janesville.
Edmonson, C. C., Waukesha.
Edwards, A. C., Baraboo.
Edwards, John B., Stevens Point.
Edwards, W. A., Chicago, Ill.
Egan, G. J., La Crosse.
Egan, W. J., Milwaukee.
Egland, G. R., Sturgeon Bay.
Egloff, L. W., Pewaukee.
Ehmer, J. W., Lomira.
Eickelberg, F. A., Reesville.
Eidam, L. W., La Crosse.
Eisenberg, J. J., Milwaukee.
Eisenberg, P. J., Milwaukee.
Ekblad, V. E., Superior.
Elfers, Jos. C., Sheboygan.
Elienson, E. P., Chippewa Falls.
Elliott, E. S., Fox Lake.
Elliott, J. T., Rhinelander.
Ellis, W. E., White Lake.
Elmergreen, R., Milwaukee.
Elsom, J. C., Madison.
Elvis, E. B., Medford.
Engsberg, Wm. A., Lake Mills.
Ennis S. A. J., Shullsburg.
Epley, O. H., New Richmond.
Erdman, C. H., Stanley.
Erickson, H. C., Viroqua.
Ernst, G. R., Milwaukee.
Evans, C. A., Milwaukee.
Evans, Edw., La Crosse.
Evans, E. P., St. Louis, Mo.
Evans, Owen, Bangor.

Faber, C. A., Milwaukee.
Fairchild, R. J., Embarrass.
Fairfield, W. E., Green Bay.
Falk, V. S., Stoughton.
Farnsworth, A. L., Baraboo.
Farnsworth, F. B., Janesville.
Farr, J. F., Eau Claire.
Farrell, A. M., Two Rivers.
Farrell, T. E., Seneca.
Fauerbach, Louis, Madison.
Faulds, Robt. C., Abrams.
Fay, Ella C., Whitewater.
Fay, Geo. H., Whitewater.
Fazen, L. F., Racine.
Federman, E. H., Chicago, Ill.
Federspiel, H. N., Milwaukee.
Fellman, G. H., Milwaukee.
Felter, Edw., Plymouth.
Fenelon, Chas. D., Phillips.
Festerling, E. G., Reedsville.
Fidler, Chas. A., Milwaukee.

Fiebiger, Geo. J., Waterloo.
Fiedler, Otho A., Sheboygan.
Field, L. M., Beloit.
Fifield, Geo. W., Janesville.
Finney, W. H., Clintonville.
Fisher, R. F., Wausau.
Fitzgerald, J. J., Eagle.
Fitzgerald, Robt. E., Milwaukee.
Fitzgibbon, W., Milwaukee.
Fitzpatrick, Mary L., Milwaukee
Flanagan, G. J., Kaukauna.
Flatley, M. A., Antigo.
Fleek, J. L., Brodhead.
Fleming, E. E., Wausau.
Fletcher, E. A., Milwaukee.
Fletcher, Wm., Salem.
Fleury, Frank D., Omro.
Flynn, L. H., Eau Claire.
Flynn, R. E., La Crosse.
Foat, J. S., Ripon.
Foerster, H. R., Milwaukee.
Foerster, O. H., Milwaukee.
Fogo, H. M., Evansville.
Foley, F. P., Dorchester.
Foley, L. J., Milwaukee.
Folsom, Wm. H., Fond du Lac.
Forbush, S. W., Orfordville.
Ford, W. B., Milwaukee.
Forkin, Geo. E., Menasha.
Fortier, C. A. H., Milwaukee.
Fortner, W. H., Princeton.
Fosse, B. O., Beloit.
Foster, J. H. A., Cornell.
Fowle, F. F., Wauwatosa.
Fowle, I. H., Milwaukee.
Fowler, J. H., Lancaster.
Fox, Paul A., Beloit.
Fox, Phil. A., Milwaukee.
Fox, Phillip R., Sr., Madison.
Fox, Phillip R., Jr., Madison.
Fox, Wm. E., Milwaukee.
Francois, S. J., New Glarus.
Frank, J. H., Neillsville.
Frank, John H., Milwaukee.
Franklin, I., Milwaukee.
Franklin, Samuel N., Milwaukee.
Franzei, J. E., Ft. Atkinson.
Frawley, Ray M., Wausau.
Frawley, W. J., Appleton.
Freeman, Jos. M., Wausau.
Freudenberg, J. A., Markesan
Frew, J. W., Milwaukee.
Frey, F. H., Wausau.
Frey, P. G., Milwaukee.
Frick, Lewis, Athens.
Friedrich, R. O., Milwaukee.
Friend, L. J., Merrill.
Froelich, J. A., Milwaukee.
Froggatt, W. F. L., Cross Plains.
Fucik, Ed. J., Williams Bay.
Fuldner, Louis, Tryon, N. C.
Fuller, M. H., Green Bay.
Fulton, W. A., Burlington.

Gaensien, F. J., Milwaukee.
Gallagher, E. E., La Crosse.
Gallogly, M. J., Milwaukee.
Galloway, A. D., Clayton.
Ganser, W. J., Madison.
Bangsberg, Sarah G., La Crosse.
Gates, A. J., Tigerton
Gates, Eugene, Two Rivers.
Gathmann, Henry, Milwaukee.
Gault, John A. Lancaster.
Gaunt, Peter F., Milwaukee.
Gavin, S. E., Fond du Lac.
Gendron, A. E., River Falls.
Genter, A. E., Sheboygan.
Gephart, C. H., Kenosha.
Gerend, A., Milladore.
Geyer, Clarence W., Milwaukee.
Giesen, C. W., Superior.
Gifford, H. B., Juda.
Gilbert, H. A., Madison
Gilchrist, R. T., Milwaukee.
Gilles, A. S., Winnebago
Gillespie, W. W., Milwaukee.
Gillette, Harry E., Pardeeville.
Gillis, J. P., Polar.
Gilmer, L. T., Beloit.
Glasier, M. B., Bloomington.
Gleason, C. M., Manitowoc.
Gnagi, W. B., Monroe.
Goddard, J. B., Eau Claire.
Godfrey, Jos., Lancaster.
Godfrey, Rush, Lancaster.
Goetsch, O. F., Hustisford.
Goggins, G. F., Green Bay.
Goggins, J. W., Chilton.

Goggius, R. J., Oconto Falls.
Golley, F. B., Milwaukee.
Goodfellow, J. R. Superior.
Goodsitt, A. H., Milwaukee.
Gordon, J. B., Shawano.
Gordon, J. S., Milwaukee.
Gorst, Chas., Madison.
Gosin, F. J., Green Bay.
Gramling, E. H., Milwaukee.
Gramling, H. J., Milwaukee.
Gramling, J. J., Milwaukee.
Graner, L. H., Coleman.
Grannis, I. V., Menomonie.
Gratiot, C. C., Shullsburg.
Gratiot, Mary, Shullsburg.
Gratiot, Wm. M., Mineral Point.
Graves, L. S., Mineral Point.
Gray, A. W., Milwaukee.
Gray, R. H., La Crosse.
Gray, W. K., Milwaukee.
Greeley, H. P., Madison.
Green, M. K., Meudota.
Green, Wm. A., Wausau.
Greenberg, H., Milwaukee.
Greenwood, S. D., Neenah.
Gregory, A. T., Mauston.
Gregory, D. H., W. DePere.
Gregory, Frank, Valders.
Gregory, J. H., Ashland.
Gregory, W. W., Stevens Point.
Grinde, G. A., Cumberland.
Griswold, C. M., Clintonville.
Griswold, F. L., Mazomanie.
Griswold, G. W., Alma Center.
Grob, A. R. F., Milwaukee.
Grosskopf, E. C., Milwaukee.
Grotjan, Wm. F., Milwaukee.
Ground, Wm. E., Superior.
Grove, W. E., Milwaukee.
Groves, R. J., Lodi.
Gudex, V. A., Milwaukee.
Guilfoyle, J. P., Evansville.
Gunderson, A., La Crosse.
Gunderson, C. A. S., Deerfield.
Gundersen, G., La Crosse.
Gunther, Emil, Sheboygan.
Gunther, Otto, Sheboygan.
Gunther, T. J., Sheboygan.
Gunther, Wm. H., Sheboygan.
Gutsch, Otto J., Sheboygan.
Guy, J. E., Milwaukee.
Guyton, E. A., Eau Claire.

Habhegger, C. J., Watertown.
Hackett, J. H., Milwaukee.
Hadley, D. A., Oconomowoc.
Hagerup, T. A., Dodgeville.
Hager, T. A., Dodgeville.
Hagerman, F. H., Milwaukee.
Haight, A. L., Chrystal Falls, Mich.
Hake, Cecil B., Milwaukee.
Hall, H. H., Webster.
Hall, R. M., Milwaukee.
Hall, S. S., Ripon.
Halsey, R. C., Lake Geneva.
Halsey, Wm. H., Milwaukee.
Hambley, T. J., Hurley.
Hamilton, D. B., Dodgeville.
Hammond, A. W., Beaver Dam.
Hammond, F. W., Manitowoc.
Haney, F. C., Watertown.
Hanko, Mary E., Plain.
Hankwitz, P. G., Milwaukee.
Hansen, John, Glenbeulah.
Hansen, Roy T., Milwaukee.
Hanson, John W., Milwaukee.
Hardgrove, J. H., Eden.
Hardy, C. F., Milwaukee.
Harlow, G. A., Milwaukee.
Harper, C. A., Madison.
Harper, Carl S., Madison.
Harrington, T. L., Milwaukee.
Harris, F. M., Green Bay.
Harris, L. M., Superior.
Harter, A. F., Marathon.
Hartman, R. C., Janesville.
Harvey, J. R., Footville.
Harvie, W. D., Fond du Lac.
Hastings, J. F., Kenosha.
Hatch, W. E., Superior.
Haubrick, H. J., Oshkosh.
Hausberry, J. S., Wonewoc.
Hausberry, P. H., Hillsboro.
Haushalter, H. P., Milwaukee.
Hausmann, N. E., Kewaskum.
Haven, W. S., Racine.
Havens, Fred Z., Waupun.
Hayes, C. A., Chippewa Falls.
Hayes, D. J., Milwaukee.
Hayes, E. P., Eau Claire.
Hayes, E. S., Eau Claire.
Hollenbeck, N. W., Milwaukee.
Holm, J. H., Kenosha.
Holmes, B. H., Racine.
Holtz, H. M., Beaver Dam.
Holz, A. P., Seymour.
Hopkins, Minnie, Oconto.
Hopkinson, Daniel, Milwaukee.
Hornig, J. P., Grafton.
Horsewell, U. M., Wausaukee.
Hosmer, M. S., Ashland.
Houck, Mary P., La Crosse.
Hougen, Ed., Grand Rapids.
Hough, A. G., Madison.
Housley, H. W., Granton.
Hovde, A. G., Superior.
Howard, F. G., Milwaukee.
Howell, E. C., Feunimore.
Howison, N. L., Menomonie.
Hoyer, A. A., Randolph.
Hoyer, G. C., Milwaukee.
Hoyme, G., Eau Claire.
Hubenthal, J. C., Belmont.
Huber, G. W., Minocqua.
Hudek, D. F., Princeton.
Huennekins, J. H., Milwaukee.
Hughes, J. R., Dodgeville.
Hugo, D. G., Oshkosh.
Hull, Edw. S., Milton Junction.
Hume, W. W., Milwaukee.
Hummel, W. J., Ablemans.
Hunt, E. M., Weyauwega.
Hunt, F. O., Fall River.
Hunt, Ida H., Weyauwega.
Hunt, W. R., Marshall.
Hurd, H. H., Chippewa Falls.
Hurth, O. J., Cedarburg.
Herbert, R. H., La Crosse.
Hernandez, J. A., Fall Creek.
Herner, W. L., Milwaukee.
Herrick, Edward L., Kenosha.
Hertzman, C. O., Ashland.
Hess, C. F., Madison.
Hicks, C. J., Jr., Mondovi.
Hicks, L. N., Burlington.
Hidershide, G. N., Arcadia.
Higgins, E. G., Melrose.
Higgins, S. G., Milwaukee.
Hildebrand, G. J., Sheboygan.
Hilger, Wm. F., Milwaukee.
Hilliard, H. G., Minong.
Hinckley, H. G., Merrill.
Hines, L. L., Rockbridge.
Hipke, G. A., Milwaukee.
Hipke, Wm., Marshfield.
Hirschboeck, J. G., Forestville.
Hitz, H. B., Milwaukee.
Hodges, F. L., Monroe.
Hodgson, A. J., Waukesha.
Hoermann, B. A., Milwaukee.
Hoermann, R. B., Milwaukee.
Hoesley, Henry F., Shullsburg.
Hoffman, E. E., Sharon.
Hoffman, Geo. H., Milwaukee.
Hoffman, Leo, Campbellsport.
Hoffman, P. A., Campbellsport.
Hoffmier, L. A., Superior.
Hogan, J. H., Racine.
Hogan, J. M., Oshkosh.
Hogue, G. I., Milwaukee.
Holbrook, A. T., Milwaukee.
Hayman, C. S., Boscobel.
Hayward, J. C., Marshfield.
Hayman, L. H., Pasadena, Calif.
Hecker, Wm., Beloit.
Hedges, A. N., Ridgeway.
Heeb, Harry J., Milwaukee.
Heffron, James J., Milwaukee.
Hefty, C. A., New Glarus.
Hegner, G. T., Appleton.
Heiden, H., Sheboygan.
Heidner, A. H., West Bend.
Helsing, A. F., Menomonie.
Heldt, Thos. J., Waukesha.
Helgeson, E. J., Evansville.
Helm, Arthur C., Beloit.
Helm, Harold M., Beloit.
Helz, J. W., Fond du Lac.
Hemmingsen, T. C., Racine.
Henbest, G. M., Beloit.
Henderson, M. L., Milwaukee.
Hendrickson, H., Green Bay.
Henes, Edwin, Milwaukee.
Henika, G. W., Madison.
Henke, W. A., La Crosse.
Henken, J. F., Racine.
Henrichsen, J. A., Larsen.
Heraty, J. A., Milwaukee.
Heraty, J. E., La Crosse.
Ingersoll, R. S., Madison.
Irvine, W., Manawa.
Irwin, H. J., Baraboo.
Ishmael, O. E., Mt. Horeb.
Ison, G. W., Crandon.
Iverson, M., Stoughton.

Jackey, F. D., Thorp.
Jackson, Edward, Denver, Colo.
Jackson, F. A., Eldorado.
Jackson, J. A., Mosinee.
Jackson, J. A., Jr., Madison.
Jackson, R. H., Madison.
Jacobs, E. C., Durand.
Jacobs, S. A., Milwaukee.
Jacobson, T. L., Delavan
Jacobson, V. C., Albany, N. Y.
James, A. W., Muscoda.
Jamieson, Geo., Lone Rock.
Jamieson, Raymond D., La Crosse.
Jardine, E. W., Alma.
Jeffers, Dean, West Salem.
Jefferson, H. A., Clintonville.
Jegi, H. A., Galesville.
Jenner, A. G., Milwaukee.
Jensen, A. B., Menasha.
Jermain, H. F., Milwaukee.
Jermain, L. F., Milwaukee.
Jewell, Thos. M., Mindoro.
Jobse, W. P., Milwaukee.
Johnson, A. W., Milwaukee.
Johnson, C. G., Milwaukee.
Johnson, Fred, Eau Claire.
Johnson, F. G., Iron River.
Johnson, H. B., Tomah.
Johnson, H. C., Bruce.
Johnson, J. E., Holmen.
Johnson, Laura M., Boston, Mass.
Johnson, W. L., Janesville.
Johnston, G. B., Abbottsford.
Johnston, H. E., Oshkosh.
Johnston, W. M., Johnson Creek.
Johnstone, W. W., Racine.
Jones, Asa N., Reedsburg.
Jones, David T., Wausau.
Jones, E. H., Weyauwega.
Jones, G. S., Milwaukee.
Jones, J. C., Spearman, Texas.
Jones, M. L., Wausau.
Jones, R. W., Wausau.
Jones, Susan, Racine.
Jones, W. J., La Crosse.
Jorgensen, P. P. M., Kenosha.
Juckem, Geo. J., Howards Grove.
Judge, Thos. A., Milwaukee.
Juergens, L. W., Milwaukee.
Junck, J. A., Sheboygan.

Kahn, Joseph, Milwaukee.
Kamm, A. X., Ashland.
Kappelmann, F. W., Milwaukee.
Karnopp, G. L., Prairie du Sac.
Kasten, H. E., Beloit.
Kastner, A. L., Milwaukee.
Katz, H. M., Cedarburg.
Kaumheimer, G. J., Milwaukee.
Kay, Harry M., Madison.
Kaysen, Ralph, Milwaukee.
Kearns, W. M., Milwaukee.
Keech, J. S., Racine.
Keenan, Harry, Stoughton.
Keenan, T. P., Lake Geneva.
Keithley, J. A., Palmyra.
Keithley, John W., Beloit.
Keland, G. A., Madison.
Keland, H. B., Racine.
Keller, S. C., Sauk City.
Kelley, F. L., Merrill.
Kelner, V. V., Maribel.
Kellog, E. W., Milwaukee.
Kellogg, J. R., Portage.
Kelly, D. M., Baraboo.
Kelly, E. J., Milwaukee.
Kelly, John, Cato.
Kelly, W. W., Green Bay.
Kemper, W. G., Manitowoc.
Kenney, G. F., Milwaukee.
Kenney, R. D., Mendota.
Kersten, N. M., De Pere.
Kettelhut, E. J., Milwaukee.
Keyes, T. B., Chicago.
Kiefer, J. G., Milwaukee.
King, Jos. M., Milwaukee.
King, Millie, Eau Claire.
Kings, J. S., Milwaukee.
Kinne, Ed., Elkhorn.
Kinsman, F. C., Eau Claire.
Kissinger, C. A., Melrose.

Kissling, A. C., Milwaukee.
Klein, Jno. T., Milwaukee.
Kleinboehl, J. W., Mercer.
Kleinhans, F. A., Milwaukee.
Kleinhans, M. A., Milwaukee.
Kleinschmidt, H. W., Oshkosh.
Knapp, E. J., Rice Lake.
Knauf, A. J., Sheboygan.
Knauf, G. E., Sheboygan.
Knauf, Fred P., Kiel.
Knauf, N. J., Chilton.
Knowles, W. L. M., Spooner.
Knox, C. S., Superior.
Knox, E. S., Green Bay.
Knutson, Oscar, Osseo.
Koch, Benno F., Milwaukee.
Koch, H. C., Whitehall.
Koch, M. J., Milwaukee.
Koch, V. W., Janesville.
Koehler, A. G., Oshkosh.
Koehler, J. P., Milwaukee.
Korthals, F. J., Milwaukee.
Kosanke, F. E., Watertown.
Kovats, F. C., Milwaukee.
Kradwell, W. T., Wauwatosa.
Krahn, A. J., Beaver Dam.
Krahn, Geo. W., Oconto Falls.
Kratsch, A. W., Milwaukee.
Kraut, Elgie, Lancaster.
Kremers, Alex, Milwaukee.
Krsutzer, A. G., Milwaukee.
Kristjanson, H. T., Milwaukee.
Kriz, G. H., Milwaukee.
Krohn, H. O., New Holstein.
Krueger, Bernhard, Cudahy.
Krueger, W. F., Burlington.
Krygiar, A. A., Milwaukee.
Kuhn, H. J., Milwaukee.
Kulig, A. H., Turtle Lake.
Kunny, Bartholomew, Baldwin.
Kyes, S. M., Owen.
Kyllo, J. C., Superior.

La Breck, F. A., Eau Claire.
Lademann, O. E., Milwaukee.
Ladewig, A. W., Milwaukee.
Ladewig, Harry, Hayden, Ariz.
Ladwig, A. A., Wausau.
Laird, J. J., Black Creek.
Lalor, J. C., Sauk City.
Lambeck, F. J., Milwaukee.
Lang, Jacob, Milwaukee.
Langenfeld, P. F., Theresa.
Langland, P., Milwaukee.
Lansdowne, F. B., Kenosha.
Lanyahr, A. R., Milwaukee.
Larsen, G. A., Hayward.
Larsen, L. A., Colfax.
Lauder, C. E., Viroqua.
Law, W. G., Ashland.
Lawler, C. F., Hilbert.
Lawler, G. W. Sussex.
Lawler, T. S., Lyndon Station.
Lawrence, G. H., Stevens Point.
Layton, O. M., Fond du Lac.
Leahy, J. D., Butternut.
Leaper, W. E., Green Bay.
Le Cron, W. L., Milwaukee.
Lee, J. H., Madison.
Lee, M. A., Superior.
Leeson, Fred W., Beloit.
Lehnkering, C. F., Darlington.
Leicht, Philip, Lake Mills.
Leitch, G. W., Milwaukee.
Leitzell, P. W., Benton.
Leland, A M., Whitewater.
Lemmel, J. T., Albany.
Lemmer, G. N., Spooner.
Lenfesty, J. P., De Pere.
Leonard, C. W., Fond du Lac.
Lettenberger, Jos., Milwaukee.
Levitas, I. E., Green Bay.
Lewis, C. H., Milwaukee.
Lewis, J. M., Bloomington.
Lewis, Marion, Milwaukee.
Lid, T. A., Marinette.
Liefert, Wm. C., Milwaukee.
Lillie, O. R., Milwaukee.
Lindores, J. D., Stevens Point.
Lindsay, W. C., Appleton.
Lindsay, W. T., Madison.
Linger, Earl A., Oconto.
Linn, W. N., Oshkosh.
Lintleman, Fred R., Janesville.
Lippitt, Eleanore C., Milwaukee.
Lippitt, S. Herman, Milwaukee.
Lobedan, E. L., Milwaukee.
Lochemes, W. T., Milwaukee.
Lockhart, C. W., Mellen.
Lockhart, J. W., Oshkosh.
Loevenhart, A. S., Madison.
Lohmiller, R. K., Superior.
Longley, J. R., Fond du Lac.
Loomis, Edw., A., Janesville.
Looze, J. J., Grand Rapids.
Lorenz, W. F., Mendota.
Lotz, Oscar, Milwaukee.
Loughlin, E. M., Milwaukee.
Loughnan, A. J., Oconomowoc.
Ludden, Homer D., Mineral Point.
Lueck, G. W., La Crosse.
Luhman, F. S., Manitowoc.
Lumsden, Wm., Menomonie.
Lund, S. O., Cumberland.
Lundmark, L. M., Ladysmith.
Lunsford, Chas. B., Gays Mills.
Lyman, J. V. R., Eau Claire.
Lynch, D. W., West Bend.
Lynch, H. M., Allenton.

McCabe, Harry, Milwaukee.
McCabe, P. G., Fond du Lac.
McCallister, G. H., Avoca.
McCann, Edith, Milwaukee.
McCarey, A. J., Green Bay.
McCarthy, Geo. W., Kenosha.
McCarthy, H. C., Richland Center.
McCarty, E. O., Chippewa Falls.
McChesney, W. M., Edgerton.
McClure, G. H., Westboro.
McComb, Isaac N., Brillion.
McCorkle, S. C., Milwaukee.
McCormick, Wm. C., Tomahawk.
McCracken, J. O., Kenosha.
McCracken, R. W., Union Grove.
McCutcheon, W. R., Thorp.
McDermott, Leo. C., Gratiot.
McDill, J. R., Washington, D. C.
McCoy, L. L., New York City.
McDonald, H. F., Hollendale.
McDougall, G. T., Fond du Lac.
McDowell, A. J., Soldiers Grove.
McEachern, W. A., Superior.
McGarty, M. A., La Crosse.
McGayley, F. M., Fond du Lac.
McGill, P. G., Superior.
McGonigal, M. Loyal.
McGovern, J. J., Milwaukee.
McGovern, P. H., Milwaukee
McGrath, Earle F., Appleton.
McGrath, Edw., Baraboo.
McGuinness, H. S., Medford.
McGuire, Wm. H., Janesville.
McHugh, F. T., Chippewa Falls.
McIndoe, T. B., Rhinelander.
McIntosh, R. L., Madison.
McIntyre, Geo. F., Elkhorn.
McKee, F. W., Los Angeles, Calif.
McKellar, A., Blanchardville.
McKnight, G. B., Fond du Lac.
McLaughlin, H. J., Bloomington.
McMahon, F. B., Milwaukee.
McMahon, H. O., Milwaukee.
McMahon, J. P., Milwaukee.
McNary, J. F., Milwaukee.
McNaughton, W. T., Milwaukee.
McNicholas, L. T., La Crosse.
McRae, J. D., Chippewa Falls.
McRae, M. F., Milwaukee.
Maas, W. C., Rio.
MacArthur, D. S., La Crosse.
Macauley, E. M., Wausau.
MacCollum, C. L. R., Manitowoc.
MacCormack, E. A., Whitehall.
MacCormack, R. L., Whitehall.
MacDonald, Wm. H., Lake Geneva.
MacGregor, S. A., Westfield.
MacKechnie, R. S., Hillsboro.
MacKinnon, G. E., Prentice.
Mackoy, F. W., Milwaukee.
MacLachlan, W. G., McFarland.
MacLaren, J. B., Appleton.
MacMillan, A. E., Stevens Point.
Madison, J. D., Milwaukee.
Maechtle, E. W., West Allis.
Maercklein, O. W., Milwaukee.
Maes, C. G., Kimberly.
Majerus, P. J., Ft. Atkinson.
Malloy, T. E., Random Lake.
Malone, F. A., Waterford.
Malone, T. C., Milwaukee.
Malone, W. F., Milwaukee.
Marek, F. B., Racine.
Marrs, Fred A., Stevens Point.
Marsden, T. H., Fennimore.
Marsh, H. E., Madison.
Marsh, Jas. M., Elkhorn.
Marshall, F. P., Fond du Lac.
Marshall, V. F., Appleton.
Martens, W. A., Milwaukee.
Martin, H. G., Milwaukee.
Mason, C. H., Superior.
Mason, E. L., Eau Claire.
Mason, V. A., Marshfield.
Mast, B. W., La Crosse.
Mathiesen, J., Eau Claire.
Matthews, J. B., Milwaukee.
Mauermann, J. F., Monroe.
Maurer, A. A., La Crosse.
Maurer, H. C., Beloit.
Maxson, Frank S., Milwaukee.
May, J. V., Marinette.
Mayfield, A. L., Kenosha.
Meachem, J. G., Jr., Racine.
Meachen, John G., Sr., Racine.
Meacher, B. C., Portage.
Meade, Frank S., Madison.
Meany, J. E., Manitowoc.
Meany, S. G., East Troy.
Mehigan, D. D., Milwaukee.
Meiklejohn, D. V., Fond du Lac.
Melaas, W. G., Beloit.
Melster, W. H., Milwaukee.
Mensing, Edmund, Milwaukee.
Merrill, W. G., Grand Rapids.
Merten, A. N. E., Milwaukee.
Merten, P. J., Milwaukee.
Mertens, H. G., Bayfield.
Mesch, A. A., Saukville.
Messmer, Clemens, Milwaukee.
Meusel, Harry, Oshkosh.
Meyer, E. E., Brillion.
Meyer, K. T., Menomonie.
Meyers, J. M., Superior.
Meyst, C. H., Milwaukee.
Middleton, W. S., Madison.
Midelfart, H. C., Eau Claire.
Mieding, A. E., Milwaukee.
Mielke, E. F., Appleton.
Milbee, H. H., Marshfield.
Millard, F. D., Milwaukee.
Miller, D. C., Marshfield.
Miller, E. A., Clintonville.
Miller, E. W., Milwaukee.
Miller, H. C., Whitewater.
Miller, M. H., Orfordville.
Miller, Thos., Oconomowoc.
Miller, W. J., LaValle.
Miller, W. S., Madison.
Mills, N. P., Appleton.
Minahan, J. J., St. Nazianz.
Minahan, J. R., Green Bay.
Minahan, P. R., Green Bay.
Minahan, R. E., Green Bay.
Mishoff, I. D., Milwaukee.
Mitchell, E. J., Brodhead.
Mitchell, F. W., Ogema.
Mitchell, R. E., Eau Claire.
Mitchell, R. S., Appleton.
Mitchell, S. R., Milwaukee.
Mock, F. C., Milwaukee.
Moe, H. B., Blanchardville.
Moeller, J., Milwaukee.
Moffat, H. L., Arpin.
Mollinger, S. M., Milwaukee.
Monk, R. W., Neillsville.
Monstad, J. W., New London.
Montgomery, A., Milwaukee.
Montgomery, R. C., Madison.
Moore, E. E., Merrillan.
Moore, G. E., Antigo.
Moore, Geo. W., Antigo.
Monroe, W. B., Monroe.
Moore, L. A., Monroe.
Moore, W. N., Appleton.
Moraux, Felix, Luxemburg.
Morgan, J. J., Durand.
Morgenroth, H. W., Oshkosh.
Mork, Ole, Blair.
Morley, F. F., Viroqua.
Morris, E. K., Merrill.
Morris, R. C., Ft. Atkinson.
Morris, Sarah I., Madison.
Morrison, Morris, Cashton.
Morrison, Wm. W., Edgerton.
Morse, E. A., Appleton.
Mortenson, O. N., Grand Rapids.
Morter, Clyde W., Milwaukee.
Morter, Ralph E., Milwaukee.
Morton, H. H., Cobb.
Muckerhelde, A. J., Milwaukee.
Mueller, W. E., Green Bay.
Mulvancy, F. M., Marion.
Munger, D. C., Ellsworth.
Munkwitz, F. H., Milwaukee.

Munn, Wayne A., Janesville.
Murphy, E. R. F., Antigo.
Murphy, Francis B., Milwaukee.
Murphy, S. W., Kenosha.
Murphy, W. J., Milwaukee.
Museus, H. B., Eau Claire.
Myers, C. E., No. Freedom.
Myers, E. A., Superior.
Myers, I. A., Cottage Grove.
Myrick, A. L., DeSota.

Nadeau, A. T., Marinette.
Nadeau, E. G., Green Bay.
Nason, Walter C., Ripon.
Natvig, G. A., Prairie Farm.
Nause, F. A., Sheboygan.
Nauth, D. F., Kiel.
Nedry, C. J., Chippewa Falls.
Nedry, G. C., Medford.
Nee, Frank, Spring Green.
Neff, E. E., Madison.
Neilson, G. W., Milwaukee.
Neis, F. P., Plainfield.
Nelson, A. L., Racine.
Nelson, A. N., Clear Lake.
Nelson, J. D., Milwaukee.
Nelson, N. O., Madison.
Nelson, O. O., Arcadia.
Nelson, W. V., Milwaukee.
Newell, Geo. W., Burlington.
Newman, Robt., Chicago.
Newton, J. E., Hudson.
Nicely, W. E., Waukesha.
Nichols, Forest C., Wausau.
Nichols, W. T., Milwaukee.
Nielson, C. S., Withee.
Nixon, H. G. B., Hartland.
Nixon, R. T. A., Brookfield.
Noble, J. B., Waukesha.
Nobles, Byron O., Milwaukee.
Noer, Julius, Berkeley, Calif.
Noer, P. J., Wabeno.
Nolan, W. N., Kaukauna.
Nolte, L. G., Milwaukee.
Notbohm, O. R., Sullivan.
Notbohm, W. R., Dousman.
Nott, G. W., Racine.
Nowack, L. H., Watertown.
Noyes, G. B., Stone Lake.
Nuzum, T. W., Janesville.
Nuzum, W. F., Baraboo.
Nystrum, C. E., Medford.

O'Brien, H. N., Darien.
O'Brien, J. M., Oregon.
O'Connell, D. C., Milwaukee.
O'Connell, J., Watertown.
O'Connell, J. F., Milwaukee.
O'Connor, W. F., Ladysmith.
O'Leary, T. J., East Troy.
O'Leary, T. J., Superior.
O'Neil, Orville, Ripon.
Oakland, H. G., Milwaukee.
Oatway, W. H., Waukesha.
Oberembt, B., Milwaukee.
Oettiker, Jas., Platteville.
Ogden, A. W., Green Bay.
Ogden, H. V., Milwaukee.
Ohswald, H. F., Oconto Falls.
Oleson, Robt., Madison.
Oliver, T. J., Green Bay.
Olmsted, A. O., Green Bay.
Olson, A. K., Ettrick.
Olson, A. L., Stoughton.
Olson, C., Racine.
Olson, E. A., Osseo.
Omsted, N., Stoughton
Orchard, H. J., Superior.
Orr, E. D., Mt. Hope.
Orton, Susanne, Darlington.
Ott, H. A., Dale.
Ottow, A. F., Beloit.
Ouellette, C. J., Oconto.
Overbaugh, J. H., Hartland.
Ovitz, F. G., Laona.
Owens, Wm. H., Milwaukee.
Ozanne, I. E., Neenah.
Ozanne, J. T., Oshkosh.

Packard, C. D., Rhinelander.
Palm, C. A., Kenosha.
Palmer, C. W., Cassville.
Palmer, J. A., Arcadia.
Palmer, Wm. H., Janesville.
Palt, Jos., Kenosha.
Panetti, E. J., Milwaukee.
Panetti, P. A., Hustisford.
Parke, Geo., Viola.
Parker, Albert S., Clinton.
Parker, T. G., Union Grove.
Partridge, C. D., Shorewood.
Partridge, O. F., Mattoon.
Paschen, James G., Milwaukee.
Patek, A. J., Milwaukee.
Payne, A. L., Eau Claire.
Pearce, W. J., Dodgeville.
Pearson, L. M., Tomahawk.
Pease, W. A., Jr., Rio.
Peck, W. W., Darlington.
Peehn, F. G., Corliss.
Pegram, Jas. W., Milwaukee.
Pelton, L. H., Waupaca.
Pember, J. F., Janesville.
Perrin, G. H., Menomonee Falls.
Perrin, H. E., Star Prairie.
Perry, Gentz, St. Louis, Mo.
Peters, H. A., Oconomowoc.
Peterson, C. F., Independence.
Peterson, E. F., Wauwatosa.
Peterson, G. E., Waukesha.
Peterson, N. A., Soldiers Grove.
Peterson, R. O., Racine.
Petzke, E. A., Hixton.
Pfeffer, E. N., Milwaukee.
Pfeifer, F. J., New London.
Pfeifer, H. A., Jackson.
Pfeil, R. C., Milwaukee.
Pfeiler, A. G., Sheboygan Falls.
Pfister, Franz, Milwaukee.
Pfisterer, F. W., Markesan.
Phalen, C. S., Sparta.
Phaneuf, S. J., Somerset.
Philips, T. C., Milwaukee.
Pickering, C. R., Muscoda.
Pickett, S. L., Bayfield.
Pierson, P. R., Readstown.
Pinkerton, W. T., Prairie du Chien.
Pippin, B. C., Excelsior.
Pitz, M. N., Neenah.
Plahner, D. S., Milwaukee.
Pleyte, A. A., Milwaukee.
Plumlee, R. S., Brooklyn.
Pomainville, Frank, Grand Rapids.
Pomainville, Geo., Nekoosa.
Pope, F. J., Racine.
Pope, F. W., Racine.
Poser, E. M., Columbus.
Post, C. C., Barron.
Potter, J. Y., New London.
Potter, L. A., Superior.
Potter, R. P., Marshfield.
Powell, J. J. Galesville.
Powers, C. D., Kingston.
Powers, H. W., Milwaukee.
Powers, J. W., Milwaukee.
Pratt, Geo. N., Appleton.
Pratt, Maud, Shell Lake.
Pretts, W. W., Platteville.
Prill, J. H., Chetek.
Prince, L. H., Sparta.
Pritchard, J. F., Manitowoc.
Proctor, T. C., Sturgeon Bay.
Prouty, W. A., Burlington.
Puestow, K. L., Madison.
Pugh, G. A., Kenosha.
Pugh, Wm., Kenosha.
Pullen, A. J., Fond du Lac.
Puls, A. J., Milwaukee.
Purcell, H. E., Madison.
Purdy, F. A., Winneconne.
Purtell, E. J., Milwaukee.
Purtell, J. A., Milwaukee.

Quade, E. B. Wausau.
Quam, Jacob, Deerfield.
Quick, E. W., Milwaukee.
Quin, J. F., Milwaukee.
Quinn, R. B., Darlington.

Raasoek, H., Nelsonville.
Radloff, A. C., Plymouth.
Ragan, W. F., Milwaukee.
Ragan, W. J., Shawano.
Randall, M. W., Blue River.
Rasmussen, H., Milwaukee.
Rath, R. R., Granton.
Rathert, E. T., Chilton.
Raymond, R. G., Brownsville.
Reay, G. R., La Crosse.
Rector, A. E., Appleton.
Redelings, T. J., Marinette.
Reeve, J. S., Appleton.
Regan, E. D., Milwaukee.
Rehling, C. F., Fremont.
Rehorst, J. J., Fond du Lac.
Reich, W. F., Milwaukee.
Reichert, J. E., West Bend.
Reineck, C., Appleton.
Reineking, H., Milwaukee.
Reineking, W. C., Rockford.
Reinert, E. N., Cleveland.
Reinhardt, J. Paul, Fountain City.
Reinhart, D. B., Merrill.
Reitz, T. F., Madison.
Remer, Wm., H., Chaseburg.
Reynolds, J. C., Lake Geneva.
Rheineck, A. F., Milwaukee.
Rhode, H. P., Green Bay.
Ribenack, Geo. A., Bloomer.
Rice, C. W., Poplar Grove, Ill.
Rice, D. S., Stevens Point.
Rice, E. M., Milwaukee.
Rice, Fern A., Delavan.
Rice, R. H., Milwaukee.
Richards, C. A., Rhinelander
Richardson, W. C., Walworth.
Ridgeway, E. T., Elkhorn.
Riegel, J. A., St. Croix Falls.
Riehl, F. W., Milwaukee.
Riley, E. A., Park Falls.
Riley, P. E., Eau Claire.
Ringo, H. F., Montreal.
Riopell, W. G., Thorp.
Riordan, J. F., Berlin.
Ripley, G. H., Kenosha.
Rinley, H. M., Kenosha.
Ritchie, G. A., Appleton.
Robb, J. J., Green Bay.
Robbins, G. H., Madison.
Roberts, D. W., Milwaukee.
Roberts, J. A., Portage.
Robinson, H. A., Kenosha.
Robinson, J. F., Eau Claire.
Roby, H. S., Milwaukee.
Rock, J. N., Milwaukee.
Rock, J. W., Milwaukee.
Roethke, R. W., Milwaukee.
Roger, R. B., Neenah.
Rogers, A. W., Milwaukee.
Rogers, E. H., Stevens Point.
Rogers, F. C., Oconomowoc.
Rogers, M. F., Milwaukee.
Rogers, P. F., Milwaukee.
Rohr, J. H., Milwaukee.
Rolfs, T. H., Milwaukee.
Rollefson, C. J., Superior.
Rood, J. F., Darien
Rose, Felix, Green Bay.
Rose, J. F., Lena.
Rosenberger, A. I., Milwaukee.
Rosenberry, A. B., Wausau.
Rosenheimer, A. M., Fox Lake.
Rosholf, J. A., La Crosse.
Ross, Geo. L., Kenosha.
Ross, H. R. T., Ladysmith.
Ross, P. M., Milwaukee
Ross, J. M., Bloom City.
Roth, W. C., Franksville.
Rothman, L., Wittenberg.
Rouse, H. A., Browntown.
Rowles, J. A., La Crosse.
Rowley, A. G., Middleton.
Ruckle, W. M., Grand Rapids.
Rudolf, A. J., Milwaukee.
Rueth, J. E., Milwaukee.
Ruethen, K. A., Ridgeland.
Rugh, R. E., Racine.
Ruka, E. A., Muscoda.
Rundell, A. S., Beloit.
Rupp, L. G., Sullivan.
Ruppenthal, A. J., Wauwatosa.
Ruschaupt, L. F., Milwaukee.
Russell, F. G., Milwaukee.
Russell, H. C., Milwaukee.
Ryan, C. E., Appleton.
Ryan, E., Sheboygan.
Ryan, Edw. R., Milwaukee.
Rydell, C. B., Superior.

Salbreiter, W. P., Racine.
Salter, H. G., Cascade
Sandborn, M. J., Appleton.
Sanders, Jos. B., Beaver Dam.
Sandine, N. V., Amery.
Sarazin, F. C., Superior.
Sargent, H. W., Wauwatosa.
Sargent, J. C., Milwaukee.
Sarles, W. T., Sparta.
Sarvela, H. L., Superior.
Sattler, J., Bear Creek.
Sattre, O. M., Rice Lake.
Sauerhering, D. L., Wausau.
Saunders, Geo., Superior.
Santhoff, Aug., Mendota.
Santhoff, Mary, Mendota.
Savage, G. F., Pt. Washington.
Savage, G. T., Milwaukee.
Sayle, R. G., Milwaukee.

Sayles, L. W., Baraboo.
Scantleton, J. M., Sparta.
Schaefer, C. O., Racine.
Schaper, H., Appleton.
Scharpe, H. R., Fond du Lac.
Schee, Jno., Westby.
Scheid, M. M., Rosendale.
Schein, J. E., Oshkosh.
Schell, Ida L., Milwaukee.
Scheller, A. A., Angelica.
Schemmer, A. L., Colby.
Scheurich, L. G., Tomah.
Schiller, L., Milwaukee.
Schlag, R. A., Prairie du Sac.
Schlegel, H. T., Wausau.
Schloemer, A. J., Jackson.
Schlesselman, G. H., Taylor.
Schloemilch, A., Portage.
Schlomovitz, B. H., Milwaukee.
Schlueter, Urban A., Milwaukee.
Schmeling, A. F., Columbus.
Schmidt, E. S., Green Bay.
Schmidt, F. M., Eagle.
Schmidt, H. E., Wauwatosa.
Schmidt, J. A., Brillion.
Schmitt, Felix, Milwaukee.
Schmitt, Gus., Milwaukee.
Schmitt, Louis, Milwaukee.
Schmitt, Phil., Milwaukee.
Schneider, Fred, New London.
Schneider, Jno., Oshkosh.
Schneider, Jos., Milwaukee.
Schnell, W. H., Superior.
Schoen, Chas., Milwaukee.
Schoen, R. E., Beaver Dam.
Scholter, E. W., Milwaukee.
Scholtz, G. M., Milwaukee.
Schoofs, J. J., Fond du Lac.
Schram, C. F. N., Beloit.
Schoofs, O. P., New York City.
Schreiner, J. K., Two Rivers.
Schroeder, F. L., Shawano.
Schroeder, J. C., Milwaukee.
Schroeder, H. F., Marinette.
Schuldt, C. M., Platteville.
Schulz, F. M., Pasadena, Calif.
Schumm, H. C., Milwaukee.
Schwalbach, C. G., Juneau.
Schwartz, A. B., Milwaukee.
Schwartz, B. J., Kenosha.
Schwartz, Rollin, Chippewa Falls.
Schwarz, S. G., Humbird.
Schweitzer, G. J., St. Cloud.
Scollard, J. T., Milwaukee.
Scott, B. E., Berlin.
Scully, F. J., Milwaukee.
Seaman, G. E., Milwaukee.
Searle, D. R., Superior.
Sears, H. B., Beaver Dam.
Seeger, S. J., Milwaukee.
Seelman, J. J., Milwaukee.
Seemann, W. O., Eau Claire.
Seiberth, J., Lugerville.
Seidel, J. G., Warrens.
Senn, C. H., Ripon.
Senn, F. C., Oshkosh.
Senn, Geo., Green Bay.
Senn, U., Milwaukee.
Sexton, W. G., Marshfield.
Shafferzick, Chas., Spokane, Wash.
Sharpe, H. A., Verona.
Sharpe, J. J., Fond du Lac.
Shastid, T. H., Superior.
Shaw, A. O., Ashland.
Shaw, B. W., Wannakee.
Shaw, J. L., Manitowoc.
Shaw, R. H., Prairie du Chien.
Shaykett, F. E., Brandon.
Shearer, A. T., Edgerton.
Shearer, F. F., Edgerton.
Shearer, H. A., Edgerton.
Sheehy, T. J., Tomah.
Sheldon, C. S., Madison.
Sheldon, W. H., Madison.
Shepherd, E. L., Brandon.
Shepherd, W. A., Seymour.
Sherman, Adin, Winnebago.
Sherwood, M. W., Milwaukee.
Shimek, A. J., Manitowoc.
Shinnick, T. F., Beloit.
Sickles, W. A., Milwaukee.
Sidler, A. C., Cudahy.
Sieker, A. W., Franklin.
Siekert, H. P., Milwaukee.
Sifton, H. A., Milwaukee.
Simon, L. J., Fond du Lac.
Simones, V. L., La Crosse.
Simons, N. S., Whitehall.
Sincock, H. A., Chicago, Ill.
Sisk, Ira R., Madison.
Sivertson, M., La Crosse.
Sivyer, A. W., Milwaukee.
Sizer, E. M. A., Reo Hando, Texas.
Skemp, Archie, La Crosse.
Skwor, C. J., Mishicott.
Sleyster, Rock, Wauwatosa.
Smedal, E., La Crosse.
Smiles, C. J., Ashland.
Smiley, R. B., Stevens Point.
Smith, A. D., Gilmanton.
Smith, Chas. E., Beloit.
Smith, Chas. M., Jr., Evansville.
Smith, D. S., La Crosse.
Smith, E. V., Fond du Lac.
Smith, G. M., Chippewa Falls.
Smith, J. C., Beloit.
Smith, Jos. F., Wausau.
Smith, K. W., Madison.
Smith, O. E., Mukwonago.
Smith, R. C., Superior.
Smith, S. M., Milwaukee.
Smith, S. M. B., Wausau.
Smith, T. D., Neenah.
Snodgrass, T. J., Janesville.
Solberg, A. A., Coon Valley.
Soles, F. A., Spencer.
Somers, J. S., Chippewa Falls.
Sommers, J. C., Madison.
Sonnenburg, C. N., Sheboygan.
Sorenson, S., Racine.
Southwick, F. A., Stevens Point.
Spawn, M. G., Beloit.
Speck, J. T., Park Falls.
Spencer, L. E., Wausau.
Sperry, S. B., Milwaukee.
Sperry, W. P., Phillips.
Spiegelberg, F. H., Boscobel.
Snitz, M. M., Milwaukee.
Spronle, Ralph, Milwaukee.
Squire, C. A., Sheboygan.
Stack, G. F., Independence.
Stack, S. S., Milwaukee.
Staehle, Max, Manitowoc.
Stamm, L. P., Milwaukee.
Stang, H. M., Eau Claire.
Stanley, Wm. S., Milwaukee.
Stannard, G. H., Sheboygan.
Starnes, Brand, New Lisbon.
Stebbins, W. W., Madison.
Steele, G. A., Oshkosh.
Steele, G. M., Oshkosh.
Steffen, I. D., Antigo.
Steffen, L. A., Antigo.
Stein, J. F., Oshkosh.
Stemper, Irene G., Milwaukee.
Stenek, A. F., Manitowoc.
Steves, B. J., Menomonie.
Stewart, F. W., Sheldon.
Stewart, W. C., Kenosha.
Stiennon, O. A., Green Bay.
Stiles, V. W., Sparta.
Stimpson, Geo. C., Pine River.
Stirn, F. J., Dubuque, Ia.
Stockman, B. G., Woodville.
Stoddard, C. H., Milwaukee.
Stoelting, C. W., Oconto.
Stoland, L., Eau Claire.
Stolz, C. E., Milwaukee.
Stone, E. J., Milwaukee.
Stovall, W. D., Madison.
Stoye, J. P., Theresa.
Stranberg, W. L., Milwaukee.
Strass, H. W., Milwaukee.
Stratton, F. A., Milwaukee.
Strauss, F., Milwaukee.
Strong, Russel, Milwaukee.
Stubenvoll, C. E., Shawano.
Studley, F. C., Milwaukee.
Stuesser, C. N., Ashippun.
Suiter, F. C., La Crosse.
Sullivan, A. C., Madison.
Sullivan, E. S., Madison.
Sullivan, Jos. D., Kenosha.
Sullivan, J. T., Milwaukee.
Sure, J. H., Milwaukee.
Sutherland, C. H., Janesville.
Sutherland, F. F., Janesville.
Suttle, H. J., Viroqua.
Swanson, A. J., Frederic.
Swartout, E. C., La Crosse.
Swartout, Edith C., La Crosse.
Sweemer, Wm., Milwaukee.
Sykes, H. D., Milwaukee.
Sylvester, Homer, Madison.

Tanner, Emil E., Milwaukee.
Tanner, G. F., Turtle Lake.
Tarter, J. W., Iron River.
Tasche, C. T., Sheboygan.
Tasche, J. T., Sheboygan.
Taugher, A. J., Milwaukee.
Taugher, J. P., Milwaukee.
Taylor, A. R., Brodhead.
Taylor, E. A., Racine.
Taylor, F. B., Madison.
Taylor, J. G., Milwaukee.
Taylor, L. L., Waupun.
Taylor, R. W., Pewaukee.
Taylor, Wm. A., Portage.
Teich, Wm., Cecil.
Tenney, H. K., Jr., Madison.
Terlinden, J. H., Bonduel.
Thackery, R. C., Racine.
Thalhimer, Wm., Milwaukee.
Tharinger, E. L., Milwaukee.
Thayer, F. A., Beloit.
Thielke, G. A., Wausau.
Thienhaus, C. O., Milwaukee.
Thill, D. P., Milwaukee.
Thomas, J. S., Milwaukee.
Thomas, Wm. O., Clinton.
Thompson, Albert S., Mt. Horeb.
Thompson, Bertha V., Oshkosh.
Thompson, G. E., Kenosha.
Thompson, I. F., Madison.
Thompson, J. B., Wittenberg.
Thompson, R. D., Baraboo.
Thomson, W. J., Portage.
Thorndike, Wm., Milwaukee.
Thorne, Jas. P., Janesville.
Thrane, A. D., Eau Claire.
Tibbits, U. J., Waukesha.
Tillson, E. M., Milwaukee.
Timm, F. W., Milwaukee.
Tindall, F. G., Belleville.
Tisdale, L. C., Milwaukee.
Titel, E. A., Greenleaf.
Tkadlec, Jos., Cazenovia.
Tolan, T. L., Milwaukee.
Tompach, Emil, Racine.
Toner, T. J., Kenosha.
Toothaker, J. E., Algoma.
Tormey, A. R., Madison.
Tormey, T. W., Madison.
Towne, W. H., Shiocton.
Townsend, E. H., Jr., La Crosse.
Townsend, E. H., Sr., New Lisbon.
Townsend, E. J., Madison.
Trancklе, H. M., Bloomer.
Treadwell, C. L., Faith, So. Dak.
Treat, C. R., Sharon.
Treglown, L. H., Livingston.
Trentzch, M. W., Highland.
Trevitt, Margaret, Wausau.
Trowbridge, C. H., Viroqua.
Trowbridge, P. T., Hayward.
Trowbridge, Wm., Viroqua.
Truitt, J. W., Milwaukee.
Tryon, F. E., Baraboo.
Tucker, W. J., Ashland.
Tuffley, F. S., Boscobel.
Tupper, E. E., Eau Claire.
Turgasen, F. E., Marshfield.
Twohig, D. J., Fond du Lac.
Twohig, H. E., Fond du Lac.
Twohig, J. E., Fond du Lac.
Tyvand, J. C., Whitehall.

Unkrich, C. R., Whitewater.
Urheim, O. J., Park Falls.

Vachitinsky, Samuel, Milwaukee.
Van Altena, L. A., Jr., Cedar Grove.
Van de Erve, Walter, Milwaukee.
Van Hengel, G. T., Waupun.
Van Kirk, F. W., Janesville.
Van Schaick, R. E., Caroline.
Van Slyke, L. H., Knapp.
Van Valzah, Robt., Madison.
Van Westrienen, A., Kenosha.
Van Zanten, Sheboygan.
Vedder, H. A., Marshfield.
Vedder, J. B., Marshfield.
Venning, J. R., Bagley.
Ver Meulen, J. R., Waupun.
Vogel, C. A., Elroy.
Vogel, C. C., Elroy.
Voight, A. H., Oostburg.
Voight, O. P., Gillette.
Voje, J. H. Oconomowoc.
Von Beust, M., Milwaukee.
Von Buddenbrock, E., Racine.
Von Neupert, Carl Sr., Stevens Point.
Von Neupert, Carl, Jr., Stevens Point.
Voskuil, Anthony, Cedar Grove.

Wade, F. S., New Richmond.
Wadey, B. J., Belleville.
Wahl, C. M., Black Hawk.
Wagner, N. B., Racine.
Wahl, H. S., Wausau.
Waite, W. S., Watertown.
Wakefield, G. F., West Salem.
Walch, F. C., Black Creek.
Waldschmidt, J. W., Fond du Lac.
Waldschmidt, Wm. J., Fond du Lac.
Walker, F. W., St. Croix Falls.
Walker, L. J., Merrillan.
Wallis, J. H., Rice Lake.
Walsh, C. C., Merrill.
Walsh, J. E., Richland Center.
Walters, D. N., Fond du Lac.
Warfield, L. M,. Ann Arbor, Mich.
Was, Edw., Oostburg.
Washburn, W. H., Milwaukee.
Waters, Don, Grand Rapids.
Waters, Hugh, Nekoosa.
Watkins, W. C., Oconto.
Watson, F. V., Antigo.
Waufle, Guy C., Janesville.
Weaver, L. A., Iron Belt.
Webb, E. P., Beaver Dam.
Webb, W. B., Beaver Dam.
Weber, A. J., Milwaukee.
Weber, E. P., Chilton.
Weber, F. T., Arcadia.
Weber, H. F., Newburg.
Webster, B. N., Rice Lake.
Webster,, F. E., Amherst.
Wedge, A. H., Cambria.
Wegge, W. F., Milwaukee.
Wehle, W. J., West Bend.
Weideman, Wm. G., Milwaukee.
Weingart, W. F., Milwaukee.
Weisgerber, A. L., Superior.
Welch, F. B., Janesville.
Welke, E. G., Madison.
Wenker, R. J., Milwaukee.
Wenn, J. F., Milwaukee.
Wenstrand, D. E., Milwaukee.
Wentzell, W. L., Beaver Dam.
Wenzel, J. V., Ashland.
Werner, C. F., St. Cloud.
Werner, H. C., Union Grove.
Werner, Nels, Barron.
Werner, R. F., Eau Claire.
Westgate, H. J., Rhinelander.
Westhofen, R. C., Milwaukee.
Wetzler, S. H., Milwaukee.
Whalen, G. E., Milwaukee.
Wheeler, C. H. E., Bloomington.
Wheeler, W. P., Oshkosh.
White, A. G., Milwaukee.
White, A. S., Rice Lake.
White Cleveland J., Madison.
White, W. E., Burlington.
Whitehorn, E. E., Vesper.
Whyte, W. F., Madison.
Wichman, G. C., Glendale, Calif.
Wiesender, A J., Berlin.
Wiger, H. C., Dallas.
Wilcox, A. G., Solon Springs.
Wiles, G. B., Sheboygan.
Wiley, F. S., Fond du Lac.
Wilkinson, J. A., Hales Corners.
Wilkinson, M. R., Oconomowoc.
Willard, C. J., Wauzeka.
Willard, L. M., Wausau.
Williams, A. J., Waukesha.
Williams, H. H., Sparta.
Williams, S. E., Chippewa Falls.
Williams, W. E., Cambria.
Williamson, G. H., Neenah.
Wilson, C. J., Winchester.
Windesheim, G., Kenosha.
Wing, W. S., Oconomowoc.
Winneman, F. A., Merrill.
Winter, A. E., Tomah.
Witte, D. H., Milwaukee.
Witte, W. C. F., Milwaukee.
Wittman, A. R., Merrill.
Wochos, F. J., Green Bay.
Wochos, W. M., Kewaunee.
Wolf, H. E., La Crosse.
Wolfgram, O. J., Fond du Lac.
Wolter, H. A., Green Bay.
Wolters, Herbert, Milwaukee.
Wood, F. C., Waupaca.
Woodhead, F. J., Waukesha.
Wooll, G. K, Janesville.
Wright, Chas. A., Delavan.
Wright, E. A., New Richmond.
Wright, F. R., West Allis.
Wright, J. C., Antigo.

Yaffe, Aaron, Milwaukee.
Yanke, A. E., Milwaukee.
Yates, J. L., Milwaukee.
Youmans, L. E., Mukwonago.
Young, A. F., Wauwatosa.
Young, Geo. H., Elkhorn.
Young, J. H., Elkhorn.
Young, M. L., Ashland.
Young, Will, Ft. Atkinson.

Zaegel, R. L., Sheboygan.
Zaun, Geo. F., Milwaukee.
Zellmer, Carl E., Madison.
Ziegler, J. E. B., Eau Claire.
Zierath, Wm. F., Sheboygan.
Zilisch, Wm. E., Wausau.
Zimmermann, C., Milwaukee.
Zimmermann, W. C. L., Reedsburg.
Zinns, A. J., Milwaukee.
Zivnuska, J. F., Milwaukee.
Zohlen, J. P., Sheboygan.
Zuercher, J. C., Milwaukee.
Zwaska, A. B., Rockton, Ill.
Zwickey, W. H., Superior.

SEQUELAE OF EPIDEMIC (LETHARGIC) ENCEPHALITIS.

Of ninety acute cases of epidemic (lethargic) encephalitis examined by William House, Portland, Ore. (*Journal A. M. A.*, July 15, 1922), twenty-four are known to have been fatal, giving a known mortality of 26 per cent, with six or seven cases that probably terminated fatally, so that it is quite likely that the total mortality was nearer 33 per cent. After deducting the fatal cases, probably one third of the patients are now well, though with rare exceptions convalescence was prolonged and he was indeed fortunate who, having suffered from encephalitis, was quite well at the end of a year, though many resumed work in from three to six months. The remainder are still uncomfortable, many of them helpless, more in a condition of semi-invalidism which permits of some activities but robs life of much of its joy. Psychoses were present in a large number of the acute cases. They persisted or developed as sequelae in not less than five cases, but had no pathognomonic characteristics. The symptoms suggested that the patients were predisposed to mental disorders and that the psychoses were excited rather than caused by the infection. Four of these patients were constitutional psychopathic inferiors, and in each the manifestations were typical of dementia praecox with plainly discernible hereditary elements. Three other cases of well-defined dementia praecox type were noted, each following seemingly indisputable attacks of epidemic encephalitis. In all of these cases there was good reason to believe that the psychosis was that of dementia praecox and that the encephalitis acted as an excitant of predisposed patients, just as war shock or other unusual experience acts on psychopathic personalities. The largest group was made up of those who became neurasthenic, psychasthenic, or both. Two patients remain hemiparetic. Several patients still exhibit weakness of one or more ocular muscles accompanied by slight strabismus which they are able to overcome temporarily by an effort. Those who present sequelae suggesting lesions of the medulla were relatively few, probably because lesions of the medulla were usually fatal, except as medullary symptoms were present in certain of the Parkinsonian cases. Three patients with typical Parkinsonian symptoms periodically find difficulty in swallowing, and suffer from excessive salivary secretion and constant trembling about the lips and tongue which suggest incipient bulbar paralysis. Twelve patients with a marked Parkinsonian syndrome remain, 10 per cent of the nonfatal group. At least four of the fatal cases were of the Parkinsonian type, so that the total number of cases of this complex was approximately 11 per cent.

OBSERVATIONS ON THE ETIOLOGY AND PATHOLOGY OF CHOREA MINOR.

Aschoff nodules were demonstrated by Louis C. Schroeder, New York (*Journal A. M. A.*, July 15, 1922), in the heart muscle of a 20-months-old child who had chorea and a fulminating rheumatic carditis and pericarditis. Advances in the study of the physiology of the basal ganglions make it seem likely that the chief pathologic changes in chorea minor occur there.

ORIGINAL ARTICLES.

RENAL CALCULI.*

BY DANIEL N. EISENDRATH, A. B., M. D.

CHICAGO, ILL.

The majority of practitioners are familiar with this subject in a general way. My object therefore, today, will be to direct your attention to some of the more recent advances rather than to discuss in detail the various clinical pictures and other features which you will find in every treatise on Urology. The most important of these recent advances in the special field of renal calculi will be discussed under the following headings:

1. The formation and reformation of calculi;
2. Advances in the X-ray diagnosis of renal calculi and their differentiation from other conditions:
3. The absence of a clinical picture pathognomonic of renal calculi;
4. The importance of congenital anomalies of the kidney and ureter;
5. The indications for operation and the improvements in the methods of removal of renal calculi.

Let us take these up in the order named.

1. *Formation and Reformation of Calculi.*

Every crystal, it has been found, is formed around a framework or skeleton of colloid material. Normal urine contains the necessary albuminous (colloid) material for the formation of such a frame. We know that the urine is to a certain extent a solution of crystalline substances and that if these are present in excess they are precipitated. Hence, the material for the skeleton framework already being present in the normal urine, it is not difficult to deduce that under favorable conditions the colloids and crystals combine to form calculi. Calculi are found in bacteria-free (aseptic) kidneys, and, on the other hand, the presence of infection in a kidney is very frequently followed by the formation of calculi. This is especially true of colon bacillus infection. Two other factors which favor the formation of calculi have also been observed, namely: (a) that stagnation of, or obstruction to the escape of urine from the kidney is an important element, and (b) that the formation of calculi is especially apt to take place when there is a disturbance in the innervation of the kidney as occurs not infrequently after a spinal cord injury or disease. Kurt Mueller found that in eight of ten such injuries which came to necropsy at the Halle Clinic, calculi were found. The first clinical symptoms usually presented about three months after the injury. The recent contribution to this subject of formation of calculi by Rosenow and Meisser is of great importance. Five of six dogs which had been injected with a strain of organisms isolated from a man who had recurrent calculus formation, developed calculi which were present on both sides in four dogs. Cyranko has directed attention to the fact that stagnant urine causes the precipitation of colloids and crystalloids and that bacteriuria may be present for years without the formation of calculi if there is no stagnation. The protective colloids which are normally found in the urine are neutralized in the presence of infection, thus permitting the deposition of crystalline substances.

Uric acid and oxalate calculi are the varieties usually found when infection is absent but as soon as the latter supervenes the composition of the calculi changes and we find calcium phosphate and carbonate calculi either occurring primarily or around the uric acid and oxalate calculi as a nucleus.

These observations clear up many of our rather hazy views in regard to calculi and are of especial importance in relation to the formation or recurrence of calculi after operation.

If in a given case we find calculi weeks to months after operation, the question arises were they overlooked at the time of the operation, or have they reformed. Braasch estimates that calculi are found postoperatively in ten per cent of cases. In a recent article Barney states that of twenty cases operated at the Massachusetts General Hospital, 9 (45 per cent) revealed the presence of calculi within a short time after operation. You will readily agree that this recurrence or reformation of calculi is a very serious question. It has even influenced our indications for operative interference to such an extent that many are advising against operation for multiple or large

*Read at the meeting of the West Wisconsin District Medical Society held at Eau Claire, Wisconsin, November 2, 1922.

branching calculi if infection complicates, because true recurrence is only a question of time. (Fig. 1).

Again, there is another unknown factor, and that is we do not know yet why certain individuals have an excess of uric acid or oxalates in the blood and are prone to have recurrence of calculi even though infection is absent.

One point must be conceded, namely: that many of the so-called recurrences are not instances of true reformation but in all probability due to calculi being overlooked at operation. With the improvements in X-ray technic, the use of fluoroscopy at the operating table and less bloody methods of operation, I am confident that there will be less so-called recurrences.

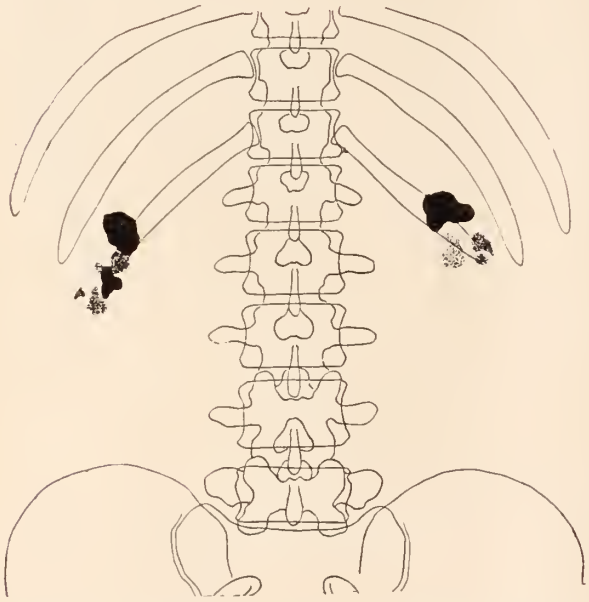

Fig. 1. Tracing of X-ray of case of bilateral renal calculi showing shadows present in both kidneys three years after first operation during which 14 calculi were removed from one kidney and 7 from the other. One and one-half years later the patient had almost as many calculi removed from both kidneys by another surgeon, and returned to the writer one year later with a bilateral recurrence of phosphatic calculi. The shadows in the kidneys were as numerous as before the operation.

Two of the most valuable lessons we have learned from the study of recurrences, is first, to eliminate all causes of obstruction which favor stagnation, and second, not to give too favorable a prognosis as to recurrence in the presence of infection. It would be a wise precaution to have a radiograph of the entire urinary tract, especially of the operated side, made either before the patient leaves the hospital or within the first six months, as a routine procedure.

2. *X-ray Diagnosis and Differential Diagnosis.*

Without co-operation on the part of the radiologist, very little progress would have been made in kidney surgery. This applies particularly to the special subject of renal and ureteral calculi. If roentgenograms of the urinary tract fulfill all of the demands made of them (Fig. 2), the number of cases in which calculi are found but in which the X-ray findings were negative, will constantly decrease. There is some difference of opinion regarding the frequency of such negative findings. I have no statistics of my own to offer and can only quote those of Barney (6 negative in 127 cases), Rovsing (32 negative of 195 cases) and Kümmell (2 per cent renal and 5 per cent ureteral). Uric acid or cystin calculi even with ideal

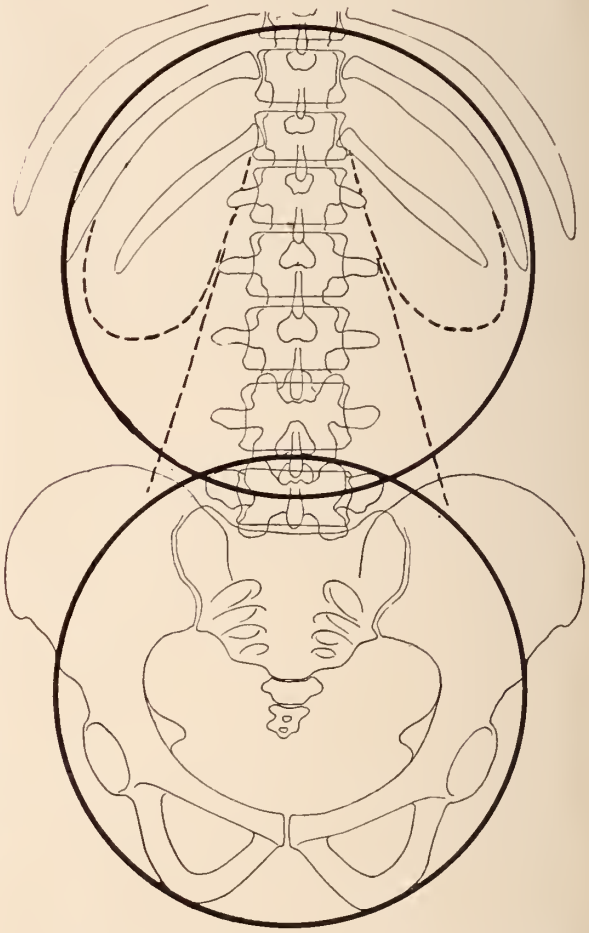

Fig. 2. Areas to be included in roentgenogram of the urinary tract. The upper exposure should always show the last two ribs on each side, the bodies and transverse processes of the last two dorsal and first four lumbar vertebrae, the shadow of at least the lower two-thirds of the kidney and the markings of the psoas muscle. The lower picture is taken in such a way as to overlap somewhat the upper one and includes the entire pelvis and the last lumbar vertebra.

technic will be the most common ones to give negative findings. In one case (Fig. 3) I employed the method of Kümmell and was able to detect a uric acid calculus which otherwise would

Fig. 3. X-ray print of case in which shadow intensification method was used. Before the use of the X-ray catheter and collargol the shadow could hardly be seen.

have been overlooked. In the case of ureteral calculi one often finds obstruction or can use the wax tipped catheter or make a ureterogram or

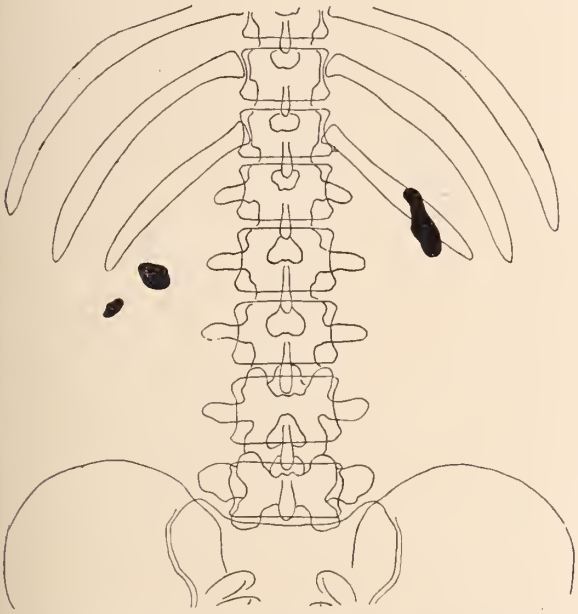

Fig. 4. Case illustrating presence of calculi in both kidneys. The presence of the right sided calculi was discovered during a routine X-ray examination of the abdomen for vague right upper quadrant symptoms. In order to exclude the possibility of these shadows being due to gall stones a pyelogram (see Fig. 5) was made. It is of interest in connection with this case that the left sided calculus was forced into the ureter (left) six days after the removal of the right sided calculi, resulting in a calculous anuria which was relieved by ureterotomy, the calculus being found in the iliac portion of the ureter.

finally find a nodular dilatation of the ureter where the calculus is located, but such diagnostic procedures are difficult to apply in the case of ureteral calculi. We have, however, a similar

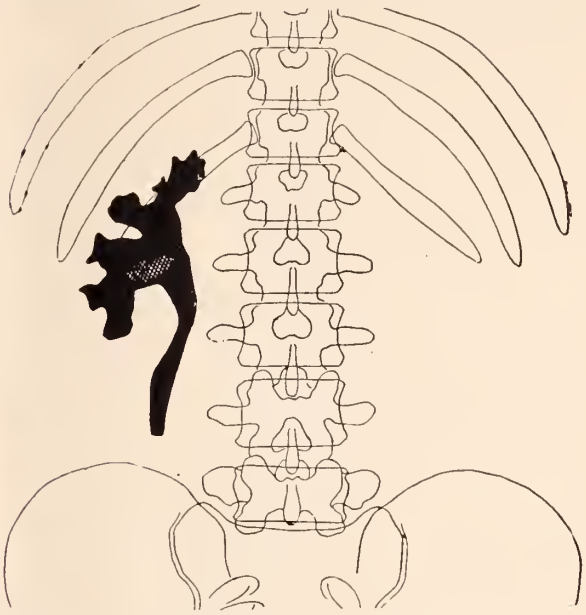

Fig. 5. Pyelogram of same case shown in Fig. 4, illustrating how a shadow of the calculus (lighter area) is included in the pyelogram.

method (Figs. 4 and 5) which will be of invaluable aid in determining whether a shadow is within the kidney or external to it. This method is to make a pyelogram and then one can readily see that the suspected shadow lies within that of the pyelogram or outside of it. In other words, the calculus shadow is included in that of the pyelogram (Figs. 4 and 5). This is of considerable value in differentiating the shadows of biliary calculi (Figs. 6 and 7) from those of kidney calculi. It must not be forgotten, however, that these two forms of calculi can coexist (Fig. 7).

We have not abandoned the use of the X-ray catheter in the differentiation of true (intrarenal and intraureteral) shadows from those external to both structures. Pyelography and ureterography are, however, indispensable in perfecting the information which the X-ray catheter alone gives.

In the majority of cases one is able after a study of the roentgenogram to state with accuracy whether the calculus is located in the renal pelvis, in a dilated calyx or in the parenchyma. This is very important since the type of operation can be planned in advance. If two calculi are superimposed, it would be very easy to overlook one during the operation. Recently Sgalitzer of Vienna has suggested making lateral exposures, using the

same technic as for the study of the lumbar vertebræ. I believe when lateral radiography is routinely employed that we will be less likely to overlook calculi which are superimposed.

Before leaving this portion of the subject let

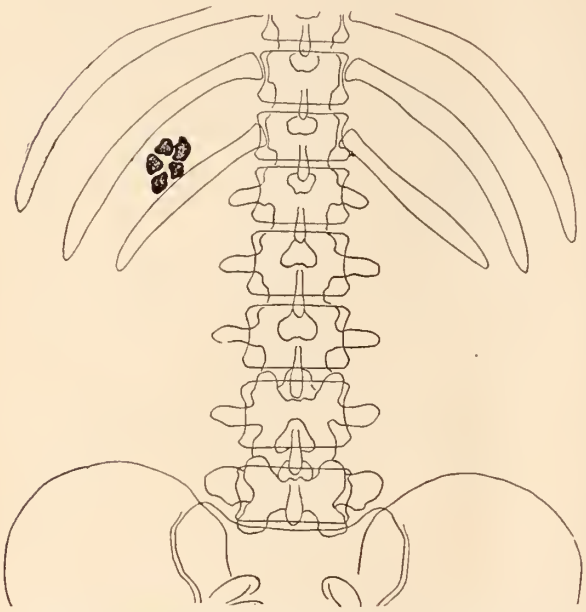

Fig. 6. Multiple gall stone shadows. Note the characteristic facetted shadows each one of which has a dark periphery and a lighter center.

me warn against roentgenograms of only a single kidney being taken.

The simultaneous presence of calculi in the ureter of the same side or in the kidney or ureter (or both) of the opposite side make it imperative to radiograph every portion of the urinary tract. The fact that calculi are so frequently found in both kidneys is the best argument as to the necessity of such a complete examination. The most recent statistics of the frequency of bilateral calculi like those of Barney (6.4% of 139 cases), 15—20% (E. O. Smith), 20% of 187 cases (Keyes), 12.3% of 566 (Braasch) and 10% of 533 (Rovsing), show why we must be vigilant so as not to overlook the presence of calculi on the opposite side. If this should occur, the patient might easily develop a calculous anuria during convalescence from the operation for removal of calculi on the only diagnosed side.

3. *The absence of a clinical picture which is pathognomonic of renal calculi.*

We have always been accustomed to think that a certain clinical syndrome like ureteral colic meant the presence of calculi. With our modern diagnostic resources we now find that there are many other conditions which can give rise to a syndrome resembling in every detail the group of symptoms commonly supposed to be pathognomonic of renal or ureteral calculi.

Colicky pain radiating downwards from the kidney toward the genitalia and bladder can be caused not only by calculi but by a number of other renal and ureteral conditions such as, (a) the passage of clots in cases of granular pyelitis, neoplasms, or in essential hematuria; (b) in certain forms of nephritis; (c) in kinking of the ureter due to the dropping of a movable kidney; (d) the passage of plugs of pus or debris in infections both tuberculous and non-tuberculous; (e) in ureteritis or in strictures of the ureter. In addition to these causes of colic there are a number of conditions outside of the urinary tract where colic is the most prominent symptom. I will only enumerate a few, namely: gall stones, pancreatic calculi or appendiceal colic, as well as the pain in some forms of intestinal obstruction.

One of the most frequent mistakes in diagnosis

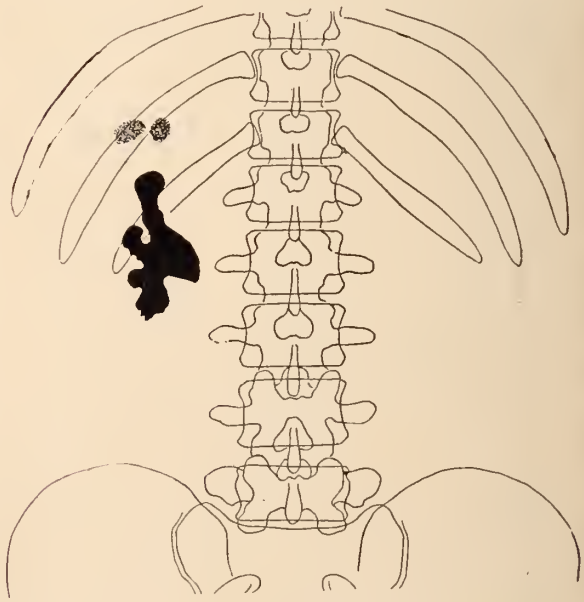

Fig. 7. Tracing of X-ray from case showing simultaneous presence of branching or coral-like calculus in right kidney and of gall stones.

is the failure to consider a tabetic crisis as the cause of an acute abdominal condition, such as ureteral colic. One should test the patellar reflexes and the accommodation to light in every case presenting the syndrome of ureteral colic in order to avoid embarrassing mistakes.

I have only mentioned ureteral colic as one of the clinical pictures which may be presented by other conditions than calculi in the kidney and ureter. The same is true of other symptoms such as hematuria, pyuria, fever, enlargement of the kidney, etc. There are a number of other kidney conditions which can give rise to exactly the same symptoms. It follows that only after a close study of the clinical history, and a physical examination when combined with the use of the special methods of diagnosis now employed for the urinary tract, will one be able to state with certainty that the clinical picture is due to calculus and not to some other lesion causing similar symptoms.

Clinically the presence of a calculus in the kidney reveals itself under one of the following pictures:

(a) The presence of dull pain over one or both kidneys increased upon exertion and often but not necessarily accompanied by blood or pus in the urine.

(b) Typical colicky pain radiating down to the ureter, which must be differentiated from all the other causes of colic which I have just enumerated.

(c) Hematuria or pyuria alone without pain, the so-called silent cases. The latter include also those cases in which a calculus causes no symptoms at all and is an accidental finding during the course of a routine X-ray examination of the abdominal viscera.

At times calculi may be present in one kidney and give rise to symptoms, whereas those in the opposite kidney are silent and only found when bilateral pictures are taken.

(d) Cases in which the calculus causes obstruction at the outlet of the renal pelvis resulting in the production of a kidney enlargement, for example, hydronephrosis or pyonephrosis.

(e) Cases in which the symptoms of kidney infection predominate over those due to the calculus itself and the latter is only found when a thorough urological study of the case is made.

(f) Cases of calculous anuria due to obstruction of one kidney or ureter by calculi with reflex anuria of the opposite one.

What I would like to impress upon you is the fact that one should never make a hurried diagnosis of renal calculi from symptoms alone. A well taken clinical history and physical examination are only the foundations for a more thorough urological study of the case.

4. *Importance of Congenital Anomalies.*

Up to within recent years the occurrence of congenitally misplaced, double, horseshoe, unilateral fused or similar congenital anomalies of the kidney was held to be of interest only to the anatomist and pathologist. The routine employment of the X-ray catheter and of ureteropyelography has shown that many of the cases presenting atypical urological symptoms are due to such anomalies. This is of great importance in relation to the question of renal calculi, which are especially apt to be formed in kidneys which present congenital malformations.

In many cases the occurrence of shadows of calculi close to the midline should arouse the suspicion that such shadows will be found in a horseshoe kidney. In general, whenever a shadow of a calculus is found in a location which is not that of the normally placed kidney the case should be carefully studied before operation lest one overlook some anomaly such as solitary or infantile kidney or one of the other forms named above, and errors in operative technic which may prove fatal to the patient occur.

Indications for operation and changes in technique.

The indications for operative intervention may be divided into (I) urgent or absolute, and (II) non-urgent. In the first group are to be placed cases of calculous anuria and those in which a calculus blocks the outlet of the renal pelvis and has caused a hydronephrosis. It is true that many cases of calculous anuria are relieved by ureteral catheterization alone but one should not wait longer than forty-eight hours for relief of the anuria by this method because the period of tolerance, that is, before the symptoms of uremia appear, is often very short (twenty-four to forty-eight hours). If the calculus which is causing the anuria cannot be located and removed, it is best to be content with a nephrotomy or better still, a pyelotomy until the patient recovers from the acute suppression of urinary secretion and remove the calculus at a later period. In cases of acute infected or non-infected hydronephrosis it is not always necessary to remove the kidney, unless the latter appears irreparably damaged. The power which a kidney possesses of regaining its function after an obstruction is removed is beyond all of our preconceived ideas. The tendency toward conserving an organ which still has some

functioning parenchyma is one of the greatest advances which modern kidney surgery has made.

In the second group of cases, that is, the non-urgent, are included the majority of cases of renal calculi. To simplify a rather complex subject, the following possible conditions will be enumerated and the indication for operation appended to each.

II. a. *Unilateral Calculi.*

1. Calculus lying either free in the renal pelvis or blocking its outlet (Fig. 8). Although the calculus itself may be small it is apt to cause considerable back pressure with resultant destruction (atrophic pyelonephritis) of the renal parenchyma. For this reason it is advisable to remove the calculus at as early a period as possible by pyelotomy.

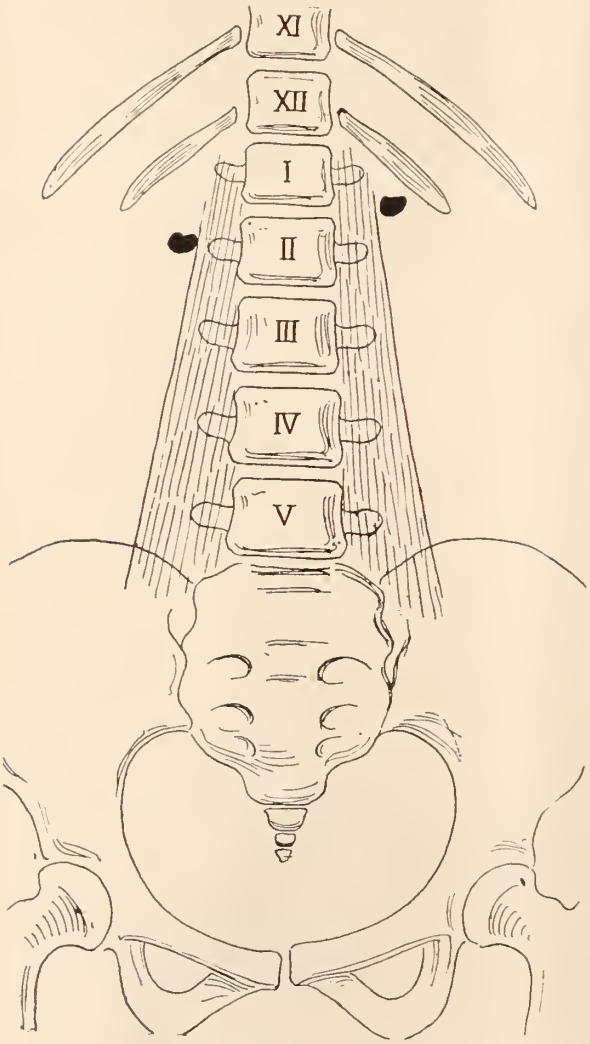

Fig. 8. Typical location of stones located at junction of ureter and renal pelvis (ureteropelvic junction).

2. Multiple calculi (Fig. 9) lying in the pelvis and in dilated calyces. If the functional tests (Phthalein) and pyelography show that there is considerable damage to the parenchyma, operation is indicated provided that the opposite kidney is not the seat of calculi and reveals approximately normal function. The type of operation to be performed in this second subgroup should aim to conserve the kidney if possible by combining small nephrotomy incisions with either an ordinary or the more recent enlarged pyelotomy. If the functional tests and pyelography demonstrate an extensive destruction of the parenchyma one must consider whether it would not be better to remove the kidney provided the remaining one is a good functioning organ. As stated at the beginning of this paper, the possibility of reformation of calculi after conservative operation in this class of cases must be borne in mind and plays an important part in the prognosis after operation and in our decision as to whether to do a nephrectomy or not.

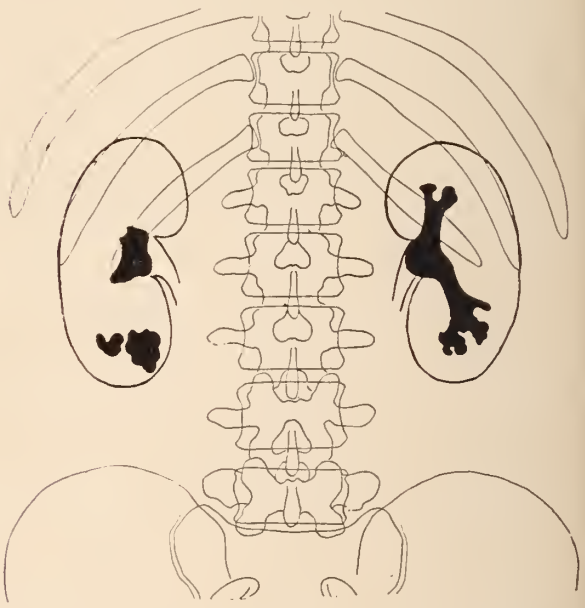

Fig. 9. Tracing of X-ray in case of bilateral renal calculi. Note multiple character of shadows in right kidney, one of which is in the pelvis and two in the calyces at lower pole. On the left side is a typical coral-like or branching calculus.

3. Large branching or coral-like calculi (Fig. 9) are those in which a more or less perfect mould or cast of the pelvis and calyces is formed by the crystalline deposit. There is still some difference of opinion as to whether these should be operated or not. If the condition is present in only

one kidney and the opposite one is functioning well and there is no evidence of acute infection, I believe that nothing is to be gained by operation as reformation is only a question of time, hence nephrectomy alone should be considered if operation is indicated at all.

4. Bilateral cases. Various combinations occur, for example, (a) calculi in both kidneys; (b) calculi in one kidney and in opposite ureter; (c) calculi in both ureters.

I can fully endorse the indications for operation in bilateral cases which Geraghty has recently laid down and which will be quoted in condensed form:

(a) In bilateral single calculi. The location and degree of obstruction are the chief factors. The calculus which is causing permanent or transitory blocking should be first removed if the opposite one is not doing any damage.

(b) If there is an impacted ureteral calculus on one side and a renal calculus on the opposite one, the former should be removed first.

(c) If there are multiple scattered calculi (Fig. 9) it is best to leave them unless relief from infection and pain is indicated. Under these conditions the kidney should be removed if the opposite one is functioning sufficiently to do the work of both.

If multiple calculi are present in both kidneys and the functional tests reveal poor function on both sides it is best to avoid any form of operative intervention. The only exception is if one of the multiple calculi is obstructing the ureter and its removal will greatly improve the drainage from that kidney, especially so if the opposite one shows poor function.

Before closing this paper let me add a few words regarding the type of operation to be employed for the removal of renal calculi when we wish to conserve the kidney. In the early history of the subject more or less complete bisection of the kidney, that is, classical nephrotomy, was commonly employed. The frequent occurrence of severe and often fatal postoperative bleeding has resulted in the substitution of either pyelotomy alone or this operation combined with small nephrotomy incisions, for the more radical complete nephrotomy. The latter is but little employed at the present time. Recently the field of application of pyelotomy has been greatly widened by extending the incision into the parenchyma after preliminary ligation of the retropelvic artery. Such an enlarged pyelotomy enables the operator to explore the intrarenal portion of the pelvis and the calyces in a bloodless field and to remove calculi which could only be reached through nephrotomy incisions.

The routine application of functional tests such as Phenolsulphonephthalein, the determination of the percentage of urea and creatinin in the blood and the use of pyelography have become indispensable in the determination of the functional capacity of the involved and opposite kidney and in guiding us not oly in the indications for operation but in the particular type to be employed, that is, whether conservative (pyelotomy and small nephrotomies) or the more radical one (nephrectomy).

DIABETES MELLITUS. DIAGNOSIS AND TREATMENT.*

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MILWAUKEE.

The one-style type of treatment in diabetes mellitus has gained such broadcast publicity that the fallacies of such stereotyped methods in the therapy of a metabolic disturbance should be emphasized. Attention has been focused so much on treatment that the instinctive reaction when a case of glycosuria presents itself is to at once institute therapy without remembering the necessity of a differential diagnosis. The most severe criticism that can be made of such an attitude is that the specific cause of diabetes mellitus is at present unknown. In the vast fog of endocrinology this is often overlooked. Quite recently, Feb., 1922, Allen[1] reiterated that "it has been impossible to demonstrate any uniform pathologic change as diagnostic of diabetes." Further, the opinion of clinicians as their experience becomes more extensive is that there is probably no single cause of diabetes mellitus. Therefore, the treatment must depend on the probable cause, and as Falta says, "die ideale Therapie ist die Therapie causalis."

Granted that a series of cases are all evidently due to the same etiologic factor. Still within each group important distinctions must necessarily be made as a guard against abuse not only of the

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method but also the patient. Prof. Neuburger, one of the best read historians of medicine, curtly says, "Doctrinaire formula-worship—that is our real enemy." Specifically, with reference to diabetes mellitus Solomon Strouse[2] recently made a contribution in delineating the various possibilities in diabetes mellitus from both the diagnostic and therapeutic sides. Joslin[3] repeatedly refers to these points. The symptoms "thirst" and the sign "edema" indicate a disturbance in the water balance of the body. This alone is a medical research problem of far reaching importance as Rowntree[4] has so well shown. The edema of diabetes is as important a problem as the hyperglycemia, acid intoxication, or the occasional glucose impermeable kidney. The mental complex;—glycosuria-diabetes-dietetic treatment — is a legitimate one, but not inclusive enough. The clinical observations on treatment and progress in diabetes by Allen and Sherrill[5], March, 1922, on the basis of a consistent experimental study both in the laboratory and clinic (480 cases 1919-1921) place added importance to the few points which we stress in this paper: (a) necessity for the intensive study of each case, and (b) the fallacy of applying a stereotyped form of treatment, especially since the recent contributions on Insulin by Banting, Best, Macleod and others.

From the nutritional standpoint there are other angles in the cases treated by diet only. There is the problem of the "appetite response" of the patient. Considerable distress may be occasioned by the administration of particular diets to the point of ad nauseum ud ad purgativum. Dietary handling is looked upon as a simple matter by the physician, but it is oftener dietary man-handling. In refernce to this latter matter, we propose to publish the observations in the near future of an intelligent diabetic who has had the disease for more than five years and has been under the care of a veritable corps of metabolic experts throughout this country. Wilder[6] discusses some of these problems in his article on optimal food mixtures for diabetic patients. Woodyatt has also made important contributions to this phase of the subject.

The best way to illustrate some of the avenues of approach in both *diagnosis and treatment,* we feel, is in the citing of cases. Each case is given a caption without further comment that directs the attention of the reader to a salient sign which forms its demarcation from the stereotyped viewpoint that diabetic treatment or a glycosuria need nothing more than the application of a routine dietary method.

I. Treated as diabetes mellitus, later as diabetes insipidus. The true condition was an associated helmet-like sclero-dermatous condition of the face and shoulders of long standing with accompanying neurosis. (B. H. S.)

J. F., male, 30 years old, first seen Oct., 1921. Complains of polyuria and marked itch for years with no relief by medicinal treatment. Examination reveals that the original pruritic condition was aggravated by a resorcinol dermatitis, which is improved merely by applying wool fat. Skin about face and shoulders markedly thickened from scratching. Is on a restricted diet treated presumably as a diabetic. The polyuria is shown to be neurotic and dietary in origin, with the urine sugar free. Facial lines and appearance of fingers direct suspicion to hypophyseal involvement. Roentgenogram shows nothing abnormal in sella turcica except a faintness in posterior outline for a very short distance. He is now considerably improved, and is being treated for the sclerodermatous condition by X-ray.

II. Referred as a diabetes mellitus, but child shown to have alcaptonuria. Repeatedly called diabetes mellitus, and treated as such. (B. H. S.)

O. B., 6½ years old, Hebrew, designated a diabetic by several physicians and a group of laboratory workers. On a controlled diet when seen for the first time. He was hospitalized. There was no loss of weight; polyuria, polydipsia, polyphasia, nor itch. The appetite was poor and preferred sweets. Plays well, does not tire easily. Family history was negative. He weighed 46 lbs. 4 oz. His teeth and tonsils were in poor condition. When 4 years old tonsillectomy was avoided because a diagnosis of diabetes was made. He had a slight cough and was anemic—blood count W. B. C. 17600; polymorphonuclears 85%. Blood sugar 0.12%, 0.139%. His pulse was 96 and his temperature was normal. The following tests were negative: Benedict's with diluted urine; glucose tolerance (50 gms.); fermentation; polariscopic; Wassermann; actone and albumen in urine. The undiluted urine reduced Benedict's and Fehling's with or without a low carbohydrate, low protein, moderately high fat diet. Sp. gr. urine varied from 1.010 to 1.020, and darkened with the addition of an alkali. There was no change in the clinical picture with daily food in-

take of 1000 calories. Patient dismissed (W. B. C. 7600) after two weeks (July 11, 1921) and is today living and well. No treatment for alkaptonuria at present known. Garnier and Voirin (1892) called attention to the fact that alkapton is easily mistaken for glucose. Denigé (1897) showed that alkapton is ten times as strong as that of a diabetic urine of the same percentage strength for Fehling's solution and for silver solution.

III. Diabetes mellitus of two years' duration, urine seldom glucose free although the Allen type of treatment was persisted in for the two years. After being placed on modified Newburgh-Marsh diets he has remained aglycosuric since his discharge, May 16, 1921. (B. H. S.)

H. M., age 40, married, Hebrew, was admitted to the hospital April 4, 1921. The family history was negative; father 67 and well; mother 64 and has heart trouble. Weight 142½ lbs., some edema, height 5 ft. 7 in. Blood pressure 118 mm. Hg. systolic; and 90 diastolic. Volume 24 hours urine 3000 c.c. with Sp. gr. 1.028, 4.3% glucose, acetone, diacetic acid and traces of albumen present. The blood surgar was 0.33%. He was troubled with pruritus ani. When he came under treatment, he was placed on a diet of 20 g. protein, 90 g. fat; and 20 g. of carbohydrate, equivalent to 970 calories. This was modified essentially in accord with the Newburgh-Marsh method during his stay of 42 days at the hospital so that upon discharge his daily diet called for 80 gr. protein, 170 g. fat; and 50 g. carbohydrate; equivalent to 2050 calories. Acetone and traces of albumen appeared irregularly up to April 22nd. Glucose disappeared the second day after admission, and there has been no glycosuria since April 6, 1921. On May 3rd a glucose tolerance test was negative. The blood sugar decreased to 0.24%. The pruritus disappeared. On discharge he weighed 140 lbs. and felt perfectly well. His long stay at the hospital was demanded until his wife learned to take care of him. Repeated examinations since his discharge have all been negative.

IV. Stormy case of diabetes mellitus responded promptly to the Newburgh-Marsh treatment when his body weight was adequate for his age. After breaking diet and loss of considerable weight he was, with difficulty, made aglycosuric by the same method of treatment. (B. H. S.)

A. G. E., age 35, married, American, office manager. Father died at 82, mother and brothers living and well. He has had considerable worries. His tonsils were removed in 1916, and he had pneumonia in 1918. In August, 1921, he noticed great thirst, longing for sweets, loss in weight, drowsiness and impaired vision. The urine contained glucose. A diagnosis of diabetes mellitus was made and the patient was admitted to the hospital 2 days later. The findings upon admission were as follows: weight 138¾ lbs., height 5 ft. 11¾ in., 24 hour urine 3180 c.c. Sp. gr. 1.036; percentage of urinary glucose present 0.36%; blood sugar 0.33%. He was placed on a daily restricted diet of 20 g. protein; 90 g. fat; and 15 g. carbohydrate; 950 calories. Glucose was absent after the second day. The diet was modified so that on the 14th day when the patient was discharged as improved he received 80 g. protein; 140 g. fat; and 50 g. carbohydrate. The bloodsugar was 0.23%; 24 hour urine 1000 c.c. and negative; body weight 142¼ lbs. On Oct. 4th the 24 hour urine was 1100 c.c.; Sp. gr. 1.010; no glycosuria. His bloodsugar was 0.28%. He was aglycosuric until the middle of December. He broke diet, adopted Chistian Science, and did not present himself until the 25th of January, emaciated, with acetonuria, a total urine elimination of 2400 c.c.; Sp. gr. 1.030, showing 3.1% sugar, traces of albumen and bloodsugar 0.24%. He was again hospitalized on Jan. 25th, placed upon a restricted diet of 25 g. protein; 60 g. fat; and 15 g. carbohydrate, 700 calories. This was modified so that upon his discharge, Feb. 1st, he received 25 g. protein; 90 g. fat; and 10 g. carbohydrate, 950 calories. His urine still contained 1% of sugar, a trace of albumen, with acetone and diacetic acid present. His body weight was 121¾ lbs., it had not changed. Upon further treatment at home the diet was modified so that on the 9th of Feb. when the urine was almost free of sugar he received 30 g. protein; 110 g. fat; and 10 g. of carbohydrate, 1150 calories; the 24 hour urine was 960 c.c.; his general condition was very much improved. Attempts to increase the protein was followed by glycosuria, but when the total calorie intake was increased to 1550 by additional fat the urine became glucose free on Feb. 14th, and has since remained so. He went to work and his weight May, 1922, was 138 lbs.; total daily caloric intake 2100; 60 g. protein; 180 g. fat, and 60 g. carbohydrate. He then came under the influence of a practitioner in another city who promised to cure him entirely by X-ray treatment.

In July the insurance company informed us of his demise.

V. Allen treatment persisted in for five years by a number of physicians with temporary relief of some of the symptoms at times, but excellent results with modified Newburgh-Marsh diets. (B. H. S.)

A very active trial lawyer, age 32, married. A typical diabetic wtih practically all the classical symptoms and a high blood sugar for eight years. He was treated at various times by four specialists in diabetes. The Allen method was persisted in by nearly all the specialists and general practitioners with whom he came in contact. He has been treated in many clinics throughout the country. There was no adequate relief, and there were marked transgressions on the part of the patient. He was forced to abandon active practice. In the last year he has been coughing frequently. The urine was made persistently glucose free by a low carbohydrate, low protein, and moderately high fat diet with total daily calories fluctuating between 1600 to 2000. He resumed his occupation and was comfortable until he broke diet in 1921. He was again placed on the same type of diet as had afforded relief before and he is now doing fairly well, with occasional vacation periods.

VI. Case of glycosuria and hyperglycemia with gangrene complications treated ineffectively for a number of years by the Allen, then Newburgh-Marsh methods. Recovery occurred only after anti-luetic treatment. (L. F. J.)

C. R., male, age 53, has been a severe diabetic for a number of years. On numerous occasions he has been the inmate of excellent institutions in which intelligent and rigid dietetic management was carried out with but indifferent results. His urine under the most rigid diet was rendered glucose free only for short periods of time and such efforts always resulted in rapid loss of weight and malnutrition and soon had to be abandoned. Two years ago he suffered from a diabetic gangrene of one toe which necessitated amputation. Healing was extremely tedious and in spite of all dietetic efforts no sugar free urine could be obtained. Patient was again admitted to the hospital for gangrene of big toe in November, 1921. His urine constantly contained from 4—6% glucose, ketone bodies were present and his blood sugar was 0.39. Physical and neurologic examination revealed the fact that he had unequal pupils of the Argyll-Robertson type, that there were marked sensory disturbance, particularly in the lower extremities, loss of knee jerk and a decided Romberg. He also complained of lightning like pains in the intercostal region and lower extremities. Amputation of the big toe was done, but the stump became gangrenous and amputation above the knee became necessary. The Wassermann test was negative as it had been on numerous previous occasions. Patient's condition was so poor that spinal puncture was not done at this time. The amputation wound showed no tendency to heal and rigid dietetic management, both according to the Allen and Newburgh-Marsh methods, failed to reduce the percentage of glucose in urine, or blood.

Because of the ineffectiveness of any remedial measure in controlling the sugar output, because of the evidences which had developed pointing to a cord involvement, and despite the negative blood Wassermann the patient was placed on intensive anti-leutic treatment with the result that after three weeks on a fairly liberal diet the patient's urine became sugar free. Blood sugar was reduced to 0.15, the amputation wound was rapidly healing, lightning pains had disappeared and patient was gaining in weight, and although on a diet containing 100 g. of fat; 80 g. of carbohydrate; and 50 g. of protein, sugar has not returned in three months.

VII. A persistent picture of diabetes in spite of rigid dietetic management disappears rapidly after drainage of the gall bladder. (L. F. J.)

Female, age 45, mother of six children. Has been a sufferer from gall bladder disease for a number of years, during which time she had at least three severe attacks of gall stone colic. She complained almost constantly of pain and tenderness in the right hypochondrium, radiating to the back. She suddenly developed intense thirst, polyuria, dry skin and began to lose in weight and strength. Examination shortly after revealed a large amount of glucose in the urine; a blood sugar of 0.22; copious, soft, butter-like stools containing large amounts of free neutral fat and undigested muscle fibre. Patient was placed first on the Allen and later on Newburgh-Marsh treatment without becoming sugar free for more than a few days at a time. The large amount of fat in the latter rather aggravating the condition of the stool and at times resulting in marked diarrhea. The problem of maintaining proper nutritional balance in this case was becoming a very serious one when it was decided to institute gall bladder drainage.

The gall bladder walls were found thickened, there were gall stones in the gall bladder, although the ducts were free and the head of the pancreas was enlarged and felt hard. After drainage had been instituted the stool gradually became normal, the urine became sugar free in four weeks and the blood sugar dropped to 0.12%. Patient gained 20 lbs. in weight in three months and was sugar free at the end of this time on a diet much more liberal than one which had preceded the operative procedure.

VIII. Allen treatment is effective in a case of juvenile diabetes with a pronounced neurotic background. Following shock the same treatment is ineffective. (L. F. J.)

Miss T. C., age 12. The only child of decidedly neurotic parents. Quite suddenly she became ill with excessive thirst, polyuria and rapid loss of weight. Examination of the urine showed large amounts of sugar, acetone and diacetic acids. The child was drowsy and had a decidedly sweetish breath. She was sent to the hospital and placed on the Allen treatment. In ten days her urine was sugar free, and she left the hospital in three weeks still sugar free. Her mother was a very intelligent woman who had, in the meantime, become an expert in the preparation of diabetic diets, and she succeeded in keeping the child's urine free from sugar, as attested by the bi-weekly examinations made in the office. The child was gaining in weight and strength. One evening while taking a walk with her mother a large dog sprang upon the child's chest, frightening her severely. Examination of her urine the next day revealed a large amount of sugar, the child rapidly failed, and dietetic restrictions thereafter were of no avail. Twelve days later she died in coma.

IX. Cases of cholecystitis associated with glycosuria. Following cholecystostomy and cholecystectomy the glycosuria disappeared entirely. (Dr. Max Bornstein.)

Mrs. H. H., age 40, Swedish, complained of severe sharp pain in the right groin radiating to the gall bladder region, also in the right shoulder and back. The same type of pain was present two years previous when an appendectomy and a bilateral salpingectomy was performed. Since then the pain has increased in severity. She has no children, and has had one miscarriage. There is no emaciation. An intermittent glucosuria was found for at least one year before hospitalization, July 31, 1921. On admission glucose was found in the urine. Allen treatment was instituted and the urine became sugar free in a few days. The gall bladder was drained and a postoperative hernia was repaired. A large and hard pancreas was found. Glucose appeared again on Aug. 5th, when the patient passed away in extreme cyanosis and collapse.

Mrs. M. J., age 54, American. The symptoms complained of and the history pointed to a cholelithiasis, chronic cholecystitis, and a chronic pancreatitis. Both fermentation and reduction tests were positive. The urinary glucose was 8%. Allen treatment was effective in four days, and after remaining glucose free for four days with alkaline therapy she was operated on. Following cholecystectomy and drainage of the cystic duct with the purpose of draining the pancreas there was an uneventful recovery. The patient was put on a general diet, and the urine remained glucose free in the hospital and on her return home she remained free of diabetic symptoms.

X. Diagnosed tentatively as a diabetes mellitus and pyonephrosis. Glycosuria and loss of body weight suggested diabetes. The glycosuria disappeared after Allen treatment and nephrectomy. Injury to the renal epithelium was suggestive of an increased permeability of the renal cells for glucose.

S. O., 53 years of age, hospitalized Aug. 31, 1921; body weight 136 lbs. A diagnosis of diabetes mellitus was made on the basis of a reducing substance (0.27%) in the urine and loss of weight. There was hematuria. Differential functional tests showed markedly decreased output of the left kidney. Before removal of the tuberculous kidney the reducing substance vanished from the urine presumably on dicting. For several weeks the temperature was intermittent. On dismissal his weight was 120 lbs. On entry the blood sugar was reported to be 0.28%, and on Sept. 8th it was 0.08%. The patient is now well, does not cough, living on a general diet, and his body weight is 137 lbs. which he says is three pounds below his normal.

The last case cited by us forms in a measure the transition point to types of glucosuria which appear as signs of disorder in some mechanism outside of the kidney. There are three exceptions which require mention and explanation and those are (1) the fact that there is always a trace of glucose in the normal urine, (2) the physiologi-

cal phenomena of glucosuria in flood diuresis, and (3) emotional glucosuria.

The laboratory tests for glucose are the following: (1) Power to reduce oxides of certain metals in alkaline solution; (2) rotation of the plane of polarized light; (3) formation of crystalline osazones with phenylhydrazine, and (4) fermentation with ordinary yeast. The practitioner usually employs the first test, and corroborates it by the fourth. The tendency is to rely exclusively on the first test, and that is where the trouble comes. Normal urine contains traces of (a) glucose, (b) foreign sugars depending upon the type of diet, and (c) other reducing substances. Benedict[7], Folin and Berglund[8] note with reference to the correct interpretation of weak but positive tests for sugar in the urine that the above mentioned products (a), (b) and (c) may sometimes be abundant enough to cause confusion or to give positive clinical tests for sugar. In fact it is generally stated that about 1.0 gram of glucose is present in a normal 24 hour urine.

Therefore, the clinical chemical tests for glucose and reducing substances in the urine must necessarily not be delicate enough to detect this one gram. It is possible for a positive clinical test to occur in a normal urine. If instead of a normal urinary output a diuresis occurs from excessive water drinking, etc., there would then be a possibility of having more than a trace of glucose. The modern theory of kidney secretion as formulated by Cushny[9] conceives of the glomerular filtrate as being essentially a deproteinized plasma. That is why normal urine contains glucose because glucose is present in the blood. On the way down the tubules certain substances or threshold bodies including glucose are reabsorbed. Suppose, however, that the fluid is being forced down the tubules in large amounts, in "flood diuresis" as it is called, then reabsorption would be diminished and larger quantities of reducing substances would appear in the urine. This may be the reason for the appearance of glucose in some cases of diabetes insipidus. In some instances glucose will appear in the urine during and after great emotional stress, or following partial asphyxiation, and after eating great quantities of carbohydrates.

An individual may be otherwise normal and still have urinary reducing substances as in pentosuria, laevulosuria, lactosuria, alkaptonuria, and following the taking of certain drugs which form glycuronates—chloral, antipyrin, morphine, camphor, pyramidon, etc. In some diseases as psoriasis a glucosuria may be present.

The above mentioned types are usually transitory but may be relatively persistent. The examples given above are mild and possibly non-pathologic, but there are glycosurias, pathological conditions, and they may lead to erroneous diagnosis and treatment. The following outline is a summary of these conditions. Every classification has its faults, therefore the one given below is after a fashion tentative.

These pathological conditions may be present without glycosuria.

Those interested in the classification of glycosuria can find suggestions in Allen[10], Pollak[11], and Hewlett[12].

A. Neurogenic glycosurias—
   1. Experimental—Bernard puncture of 4th ventricle substance.
   2. Cerebral tumors.
   3. Mania, melancholia, hysteria.
   4. Progressive paralysis, multiple sclerosis.
   5. Traumatic injury to the head, basal skull fracture, and cerebral hemorrhages.
   6. Meningitis.
   7. Syphilis.

B. Endocrine disturbances—
   1. Thyrotoxic goitre.
   2. Post pituitary lobe pathology, acromegaly.
   3. Probably obesity.
   4. Myxedema (?).
   5. Hypertrichosis.
   6. Following treatment by adrenalin injection.

C. Hepato-pancreatic disorders—
   1. Chronic interstitial pancreatitis.
   2. Chronic interacinar pancreatitis.
   3. Acute necrosis of pancreas or cancer.
   4. Hemorrhagic pancreatitis.
   5. Catarrh of the ducts.
   6. Gall stones.
   7. Syphilis of the pancreas.
   8. Pancreatic calculi.
   9. Acute liver atrophy.
   10. Phosphorus poisoning (liver).
   11. Cirrhosis of the liver.

D. Toxic glycosurias—
   1. Alcoholism.
   2. Acute fevers.
   3. After ether.
   4. Sometimes in gout.
   5. Cachexia.

6. Grave anemia.
7. Acute infections.

E. Kidney disease—
1. Chronic nephritis.
2. Tuberculosis of the kidney.
3. Renal glycuresis — constant glycosuria without hyperglycemia.
4. Experimental—
(a) Phloridzin.
(b) Kidney poisons, $HgCl_2$, etc.

A glance at the outline suffices to bring home the fact that it is unwise to make a diagnosis of diabetes mellitus by simply seizing upon this one symptom—glycosuria. Hamman[13] called attention to the significance of a small amount of sugar in the urine. This reaction in reference to glycosuria would closely resemble such situations where the practitioner knowing that most cases of untreated diabetes have acetone bodies in the urine, therefore every case with acetonuria is diabetic. In addition to the symptom glycosuria it is quite possible to have various groupings of the other symptoms — polyuria, polydipsia, pruritis, loss in weight, neuritis, loss of vision, asthenia—that occur in diabetes mellitus so that one could hurriedly collate from the outline and still a diabetes need not necessarily be present. Even the three postulates laid down by von Noorden need correction. Von Noorden said (1) the quantity of sugar must be demonstrable by the ordinary clinical tests, (2) the sugar must occur in the urine when the corbohydrate in the food is not more than that in ordinary human diet, or when the carbohydrate food is reduced in quantity or even stopped altogether, and (3) the tendency to glycosuria must be persistent. A case of alkaptonuria would conform to these very conditions. As Osler said, "To determine whether the case is one of simple glycosuria or diabetes is not always easy, as the one readily merges into the other." This applies particularly to the borderline cases, or potential diabetes. These involve further consideration of the methods for the determination of sugar tolerance which is not in the scope of this paper.

One can even have cases of potential diabetes with features of a frank persistent glycosuria and hyperglycemia without having a diabetes mellitus that is necessarily hopeless or that can be included in the group of renal diabetes. Joslin (personal communication) calls attention to a case in a man 45 years of age who has never been sugar free in the last 17 years, with a blood sugar of 0.22 to 0.25%. He was first diagnosed as a diabetic in 1905, and a normal blood sugar has never been found. Since 1911 his urinary sugar ranged from 2.4 to 5.8%. In 1911 his body weight was 164 lbs. dressed, and Dec. 28, 1921, it was 166¾ lbs. He eats two meals a day, does not weigh his food, sleeps 5 to 6 hours, attends to his business for several hours a day, and is of a calm, even temperament.

For those who may be interested further in the problems of diabetes, the monographs by the following authors will be very suggestive—Claude Bernard[14], Pflüger[15], Naunyn[16], von Noorden[17], Falta[18], Magnus-Levy[19], Lepine[20], Rosenberger[21], Allen[10], Foster[22], Joslin[23], Allen, Stillman and Fitz[24], Lusk, Du Bois and others[25], Benedict and co-workers[26].

CONCLUSION.

We can add to Mosenthal's[27] statement that the diagnosis of diabetes mellitus depends principally upon the demonstration of glucose in the urine but not exclusively on such evidence, and even if there is glucosuria the case need not be diabetes mellitus that can be cured by dietetic treatment. Many can be so treated but not all.

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A MODIFICATION OF THE JOHN YOUNG BROWN OPERATION FOR TREATMENT OF CHRONIC ULCERATIVE COLITIS; WITH REPORT OF A CASE.

BY E. H. MENSING, M. D., AND W. THALHIMER, M. D.

FROM THE SURGICAL SERVICE HOSPITAL, NATIONAL SOLDIER'S HOME,

MILWAUKEE.

The operation which is known by the name of the John Young Brown operation was devised for the relief or cure of different types of chronic, ulcerative and obstructive lesions of the large bowel. In 1913 Brown[1] reported several cases treated with excellent results by this method. It is particularly useful in those distressing cases of chronic colitis which persist for many years and which are practically always resistant to medical treatment and treatment with various types of colonic irrigations. These are the so-called cases of chronic colitis of "unknown origin," and are not uncommon.

The technic of the operation described originally by Brown is as follows:

The iliocecal junction is approached through the right abdominal incision. The appendix is next removed. The ilium is cut across at the iliocecal junction and the distal end is inverted. The proximal end is ultimately sewed into the abdominal wound, completing an ileostomy. A colostomy is performed in the caput coli, this being completed with a small tube or catheter. The catheter is brought out through a stab wound at McBurney's point.

The purpose of the colostomy is to provide an opening for through and through irrigation of the entire large intestine. After the large intestine has been kept at rest for several months and the colitis has disappeared, a second operation is performed, the continuity of the ilium and large bowel is restored, and the colostomy is closed.

This method of treatment of chronic colitis is a marked improvement over other methods, and is not only logical, but actually effects the desired results. The other methods which have been utilized in the past and which only occasionally have resulted in cure, are as follows:

So-called medical treatment. This consists of various types of colonic irrigations, medication, etc.

Appendicostomy, with irrigation of the large bowel through the appendicostomy.

Ileosigmoidostomy.[2] This short-circuiting operation does not completely short-circuit all of the intestinal contents out of the large bowel, and therefore does not completely remove the irritation from these contents. Also, since the sigmoid and rectum are usually involved, these still remain in the direct path of the intestinal contents, and are exposed to irritation from these.

The principal of the John Young Brown operation was utilized in the treatment of the case of chronic ulcerative colitis which is reported below. Modifications were made in this procedure which appear to us to have some advantages over the original operation, and seem worth reporting briefly.

At the first operation simply an ileostomy was performed immediately at the ileocecal junction, and the distal end of the ileum was inverted. Instead of removing the appendix, this was purposely left undisturbed, and a colostomy was *not* performed.

Three months were allowed to elapse between the first and second operations, during which time the colon was irrigated daily with normal salt solution. The patient gained thirty pounds in weight, and his general condition improved remarkably. At the end of this time proctoscopy

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[1]Surg., Gynec. and Obst., 1913, XVI, 610.

[2]Davis, Carl B.: Two Cases of Ileosigmoidostomy. Surg. Clinics of North Amer., 1922, June, 879.

revealed complete healing of the ulcers of the rectum and recto-sigmoid which the proctoscope had revealed before the first operation.

The second operation was then performed for the restoration of the continuity of the intestinal tract. This was accomplished with an end to side suture anastomosis of the ileum to the caput coli. The appendix was then brought up into the wound for the purpose of performing an appendicostomy a few days later if this should be indicated. It was thought that should marked distension occur which would endanger the healing of the suture line, this pressure could be relieved by removing the tip of the appendix and thereby completing the appendicostomy.

On the third day after the second operation the patient's abdomen was markedly distended, and he was very uncomfortable from this. The tip of the appendix was cut off, and this was followed immediately by the escape of gas, after which the distension rapidly disappeared and the patient's discomfort also. The appendicostomy has since then closed spontaneously. The patient has made an uninterrupted recovery, is completely relieved of his diarrhea and his other symptoms, and has a normal number of normal bowel movements daily.

The cure in this case corroborates the results originally reported by John Young Brown. It should call attention again to the remarkable spontaneous healing of certain types of chronic ulcerations of the alimentary tract when the ulcerated region is put absolutely at rest. This applies not only to large intestinal ulcers but to gastric ulcers as well. Chronic gastric ulcers have been known to heal in three to four weeks, after jejunostomy alone, with feedings entirely through the jejunostomy.

The modifications in the operations described above are believed to be improvements in the procedure originally described by John Young Brown. Sufficient credit has not been accorded John Young Brown for the important surgical principle worked out by him for treating chronic ulcerative colitis.

Male, 46 years old.

Complaint. Chronic dysentery and prolapse of rectum.

Past History. Twenty years ago the patient contracted an acute dysentery while serving in the army in the Philippine Islands. This became very severe and he lost weight rapidly. It was never proven whether this was bacillary or amoebic dysentery. The dysentery became chronic, and during the entire interval since then he has had numerous liquid bowel movements daily, most of them containing blood and mucus. In recent years his anal sphincter has become relaxed and he has had no control of bowel movements. A moderate prolapse of the rectum has occurred and persistent in spite of an operation for hemorrhoids several years ago. His lowest weight was 98 lbs. He now weighs 108 lbs.

Physical Examination. Very thin, pale man. Heart and lungs normal. Slight general abdominal tenderness, especially over the entire large intestine. Liver extends three fingers below costal margin, is smooth and not tender. Anus is markedly relaxed, and there is a prolapse of the rectum for about 2 cm. when the patient strains. Blood Wassermann is negative. Urine is negative.

Proctoscopy. Reveals many large, irregular, bleeding, shallow ulcerations as high as the recto-sigmoid. There are also present many small polyps about ½ cm. in size. One of these was removed, examined microscopically, and proved to be a mucous membrane, benign polyp, showing subacute inflammation.

2/21/1922. Modified John Young Brown operation (as described above). Liver palpated and found enlarged but otherwise normal. Following the operation the patient rapidly improved in general condition, and gained 30 lbs. in weight. He was daily given high enemas (colon irrigations) with normal saline solution.

5/20/1922. *Proctoscopy.* Polyps still present but ulcers have entirely healed.

5/23/1922. Second operation, re-anastomosis of ileum to caput coli by end to side suture. Appendix sewed into wound, the tip projecting 1 cm. above skin.

5/26/1922. Patient's abdomen markedly distended. Projecting tip of appendix cut off, followed by escape of gas, relief of abdominal distress and abdominal distension.

6/30/1922. Patient has gained 40 lbs. in all, has two normal bowel movements a day, has complete control of sphincter ani, and his general health is excellent.

We wish to express our thanks to Major M. W. Snell, Chief Surgeon, and to Dr. A. M. Dorr, Gastro-enterologist to the Hospital, for referring this case to us.

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EDITORIALS

YOUR ANNUAL DUES.

YOUR annual dues are payable now. To take a part—your part—in the enlarged program of activities of your organization it is necessary that you give your prompt support. If you have not attended to the matter of your 1923 dues, please remit to your county secretary without delay.

SOCIAL MEDICINE AND THE PHYSICIAN.

MUCH has been written of late regarding state medicine and the economic difficulties in the practice of medicine. At a conference of State Medical Society secretaries, Dr. Frank Billings made some most pertinent remarks concerning this subject. He said in part:

"When you say it is not worth while to study medicine because of the economic conditions of today, it simply means that there are not enough young men today who possess the moral stamina. If a young man is qualified, if he is honest, if he is animated by a desire to give service, and will practice medicine, regardless of what he may get out of it in a financial way, he cannot keep patients away from him. We fear social medicine, and the tendency since the war has been for national organizations and for the government to favor paternal medicine, but it will never succeed. In the poorest hospitals in this country the average patient gets better treatment than the discharged soldiers have had. You may talk of any health work you please, but any scheme centralized in the federal government or centralized in the state will fail, for it is axiomatic that any work of value for the welfare of the people must be done by themselves and paid for by themselves."

THE QUACK WE HAVE ALWAYS WITH US.

WITH quackery rampant, with the flourishing of cults and medical mountebanks, we are likely to feel that quackery never thrived as it does today. Then we read:

"As matters stand at present, it is easier to cheat a man out of his life than of a shilling, and almost impossible either to detect or punish the offender. Notwithstanding this, people still shut their eyes, and take everything upon trust that is administered by any Pretender to Medicine, without daring to ask him a reason for any part of his conduct. Implicit faith, everywhere else the object of ridicule, is still sacred here. * * * It would certainly be for the safety, as well as the honor of mankind, to have some check upon the conduct of those to whom they intrust so valuable a treasure as health."

This was written nearly one hundred and forty years ago (1783) by William Buchan, Fellow of the Royal College of Physicians, Edinburgh, a few years after the vogue of Bishop Berkeley's "Tar-

Water" and "Spot" Ward's "Drops," and a little before the time of Elisha Perkins' "Metallic Tractors."

THE DISAPPOINTMENTS OF HEXAMETHYLENAMIN.

HEXAMETHYLENAMIN, first introduced under various proprietary names, has at length joined the large and growing group of drugs of which much has been expected and still more promised in a therapeutic way, but which have failed to justify the hopes of their champions. It cannot be said that too little time has elapsed to permit a correct evaluation of the claims for hexamethylenamin, since a quarter of a century or more has intervened since the earliest announcement of its possible therapeutic significance. The drug owes its action entirely to the liberation of the antiseptic formaldehyde, a reaction now known to occur only in acid solutions. Hexamethylenamin itself is not actively antiseptic. The use to which it is still devoted with apparent scientific justification is in preventing the growth of micro-organisms in the urinary tract, and in destroying them when they are present in the urine during infectious diseases, such as typhoid fever. The drug is recommended as an antiseptic in cystitis, and as a prophylactic prior to operations on the urinary tract. In any event, its possible efficacy depends on the elimination of the drug through the kidneys with a urine that remains distinctly acid in reaction; otherwise, no benefit is to be expected. Such acidity may often be insured by simultaneous administration of substances like acid phosphates, which promote the secretion of an acid urine.

As it has been shown that antiseptic effects cannot occur in the body tissue and fluids that have a neutral or slightly alkaline reaction, the hope that hexamethylenamin might function to destroy dangerous germs within the tissues themselves has been shattered. Contrary to what was at one time proposed, it has no material antiseptic value in the cerebrospinal fluid during spinal meningitis. Hexamethylenamin has been recommended as a solvent for uric acid, and has met the fate of most of its competitors for favor in the attempted execution of an almost impossible task.

And now it has been shorn of another reputed property, that of diuretic potency, by the studies of Ruh and Hanzlik. These involved careful measurements of intake and output of fluid, not mere bedside guesses. Hexamethylenamin, whether used in small or in larger doses, is not a diuretic. The duration of the excretion of hexamethylenamin in the urine ranged from twenty-four to forty-one hours, being somewhat longer with larger doses used, but independent of fluid intake and diuresis. This, too, is contrary to current conceptions.

To complete the story of failure, it may be added that hexamethylenamin is said to be liable to produce renal irritation when the dosage is unduly large or its use protracted. The trade names under which the drug has been widely advertised are numerous. Various compounds of the substance also have been added in recent years to the list to be exploited. They simply possess the actions of hexamethylenamin and the salts of the acid with which it may be combined. The long story of this drug, lauded alike legitimately and fraudulently, filled with promise by the facile pen of advertising writers, and stripped of much of this vaunted glory by the tests of critical investigators, should be a wholesome lesson to those in whom great expectations are easily awakened. It is a lesson often repeated in the history of therapeutics—and the drug business.—*Jour. A. M. A.*, Jan. 6, 1923.

AS OTHERS SEE US

EDITORIALS FROM THE LAY PRESS.

LOUIS PASTEUR.

The celebration of the centenary of the birth of Louis Pasteur calls to mind not only the specific work done by that distinguished scientist and the immense advance in human knowledge which has been based upon his monumental discoveries, but the fact that all of this advance is so comparatively recent that it has taken place during the lives of many who are still living and a very great deal of it during the lives of men who do not consider themselves more than middle aged.

Upon Pasteur's work and that of one or two of his contemporaries are based the theory of disease which has been more helpful than any other form of medical knowledge in enabling physicians and scientists to carry on a winning fight against the great plagues which have brought untimely death and impairment of efficiency to millions upon millions of men.

Through work based upon this theory of disease it has been possible to stamp out yellow fever and malaria, to make typhoid extremely rare, to prevent in civilized lands epidemics of cholera, plague and typhus, to greatly reduce the mortality from tuberculosis, to bring diphtheria under control and to greatly reduce the liability of contagion in other diseases which it has not yet been possible to bring so nearly to the point of eradication.

In addition, largely upon the work of Pasteur is based that theory of treatment of disease called serum therapathy which has been so effective in preventing hydrophobia, tetanus and typhoid, so effective in the treatment of diphtheria and which promises to be of immense value in both prevention and treatment of other contagious diseases when a little more work has been done along this line.

The number of human lives saved the amount of pain and grief and sorrow prevented by increased medical knowledge and improved methods of treatment based upon Pasteur's investigations and discoveries, are beyond computation. No honor can be too great, no tribute too imposing for a man who has accomplished so much for the good of humanity. Such great men are the antitheses of great conquerors. For every death which is caused by the ambition of a Napoleon, a Pasteur saves a life. For every woe and every misery resulting from the Napoleonic wars Pasteur can show a similar woe or similar misery avoided through the saving of the life of some loved one, the preservation of the health of some breadwinner. Can there be any question of which of the two men France should be the more proud?—*Superior Telegram.*

SELF-SACRIFICE IN THE MEDICAL PROFESSION.

Announcement was recently made by the American Gas Association that a number of physicians and scientists had voluntarily inhaled deadly gases to the point of asphyxiation, to test out resuscitating methods. The public ought to feel grateful to the self-sacrificing men who undergo perils like this for the benefit of human life.

Not merely are daring experimenters constantly assuming such risks, but physicians and nurses are continually taking chances in their professional devotion. If your child has some dangerous contagious disease, the average man might not be willing to enter any part of your home to make some needed repairs, while your doctor and nurse spend many hours in the sick room taking chances that they may catch the deadly infection. People do not half appreciate the sacrifices that these professions make.—*Merrill Herald.*

THE JOURNAL CLINIC

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UNIVERSITY EXTENSION DIVISION

The University of Wisconsin.

THE UNIVERSITY OF WISCONSIN MEDICAL SOCIETY.

Regular Meeting—Wednesday, October 18, 1922, at 8 P. M., First Floor Lecture Room, Science Hall Scientific Program.

I. SOME POINTS IN REGARD TO THE DISTRIBUTION OF MUSCLE IN THE TRACHEA AND BRONCHI.

BY W. S. MILLER, M. D.

Dr. Miller gave a brief description of the trachea and its subdivision into a right and left bronchus. The point where the trachea divides is called the Carina. He next described the histological structure of the trachea calling special attention to the arrangement of the cartilages which do not form complete rings, but are filled in posteriorly by a membranous structure. The Galenic theory in regard to this membranous portion of the trachea was that it was membranous in order that large boluses of food might be swallowed without difficulty. The membranous portion of the trachea contains bands of smooth (involuntary) muscle. These bands of muscle have a different arrangement in the various classes of vertebrates. In the carnivora the attachment of these muscle bands to the cartilages is external. In the herbivora the attachment is, as a rule, internal; in the ox, for example, it is internal, but in the rabbit it is external. In man, with a mixed diet, it is internal.

From a practical standpoint Dr. Miller emphasized the importance of the dividing ridge between the right and left bronchus. This is so placed that it is situated a little to the left of the mid-line and, as the trachea has a slightly oblique direction, it tends to throw any foreign body which may find access to the trachea into the right

bronchus and right lung. Moreover, the arrangement of the muscle bands at this point still further increase the tendency of foreign bodies to pass into the right bronchus and lung. The muscle bands are so attached to the cartilages that they extend one or more cartilages higher on the left side than they do on the right side. Thus by a reflex action through contraction of these muscular bands the carina is drawn still further to the left causing the foreign body to move to the right.

In the primary bronchi the arrangement of the muscle bands is the same as in the trachea; but as soon as the bronchi have penetrated into the lung, no matter what the class of vertebrates the animal belongs to, the muscle (now known as the muscle of Reisseissen) is always situated internal to the cartilages.

Dr. Miller called attention to the large amount of muscle in the lung of the guinea pig. The muscle is found not only in the bronchi, but also in the pleura. Because there is so large an amount of muscle in this animal, it is quite difficult to properly distend its lung; it also explains its susceptibility to anaphylaxis.

Dr. Miller passed over the arrangement of the bands of muscle in the cartilaginous bronchi and took up its arrangement in the non-cartilaginous bronchi and bronchioli. This was done because the exact arrangement has not as yet been worked out in cartilaginous bronchi.

Dr. Miller stated that the muscle was not arranged in the form of bands which completely encircled the bronchi, neither is it in the form of a continuous sheet, but it is in the form of a network. This network is made up of geodesic bands which allow the greatest amount of expansion and contraction without permitting tangenital movement (slipping). Furthermore, the arrangement of these muscle bands in the network must have a definite relation to the elongating and shortening of the bronchial tree in the various phases of respiration. The angles between the various bronchial subdivisions undergoing change in phases of respiration may be explained through this muscular action. The atria, about their openings have muscular arrangements of almost sphincter-like type and the contraction of this muscular ring is a causative agent in bronchial asthma. Emphysema may result in such cases because of the ease of passing the obstruction in forced inspiration, whereas the passive action of expiration finds the resistance too great to overcome and distension of the alveoli results.

Dr. Miller called attention to the work of Dr. Larsell in the Laboratory of Anatomy on the ultimate distribution of the nerves to the muscles, stating that postganglionic fibres end in small nodules in the smooth muscle cells.

So far as the trachea is concerned there is an open question as to the action of the muscles, as is also the case with the larger bronchi. Furthermore the distribution of the nerve fibres to the blood vessels of the lung and the distribution of nerves in general and their function in the lung are open questions.

This paper was discussed by Dr. Middleton.

II. EARLY DIAGNOSIS OF CHRONIC CARDIAC AFFECTIONS.

BY J. A. E. EYSTER, M. D.

Dr. Eyster introduced his subject by emphasizing the importance of early diagnosis in chronic diseases from the standpoint of preventing the morbid changes which mark the continued progress of the same. In this relation the incidence and gravity of cardiac conditions put them in a special class in this group. This point becomes apparent when one considers the importance of the heart in human economy and the relation of the disturbances of its function to bodily processes in general. It is obvious that among vital organs it stands always alone in the absence of a compensating mechanism to relieve it of strains. Nevertheless in circumstances of extraordinary exertion it may be called upon to increase sevenfold, and here again the importance of sparing it from unnecessary loads becomes apparent.

Among chronic affections of the heart there are two general groups: first, infectious or toxic affections, second, nutrition affections. In the first group the heart may suffer primarily, whereas, in the second group the heart usually suffers secondarily—for instance arterio sclerosis. The first group may be classified as the early group in which endocarditis is the primary lesion and the etiological agent is infectious. We have in this group valvular and only secondary myocardial degeneration. In the second or latter group myocardial changes or aortitis is the primary lesion and the etiologic agent is some change in the vascular wall.

In a broad general way there are three fields for diagnosis (1) etiologic, (2) symptomatology, (3) physical diagnosis. Under the last head should be included a rigid physical examination and all the additional aids to precision. Under the etiologic factor may be considered first of all acute rheumatic fever which is the outstanding cause of chronic valvular disease below fifty years of age. Dr. Eyster referred to a notable group of cases studied in the University Infirmary during the past year. Out of thirteen cases twelve showed a definite cardiac involvement. It has been shown that permanent damage resulted in 50 per cent in the primary attack of rheumatic fever, that 65 per cent showed such changes after the second attack, and 75 per cent after a third attack. It is possible that the heart was affected in every case of rheumatic fever and from the standpoint of treatment and prognosis it is well to remember that 50 per cent of all cases show cardiac involvement. Furthermore, all cases should be treated as potentially dangerous from this standpoint.

From an etiologic standpoint chorea held second place to acute rheumatic fever. After which must be considered recurrent tonsillitis and syphilis. Below the age of fifty all aortic cases must be considered leutic until proven otherwise. Finally, a general group of infectious diseases including typhoid, influenza, and measles, must be considered in this relation. In the study of these cases, a study of the habits of life and exercise is important. The necessity of early diagnosis before symptoms of decompensation appear was impressed and the following symptoms were considered: palpitation, arrhythmia, dyspnea, weakness, faintness, and pain.

Dr. Eyster discussed these cases in some detail stressing the importance of obtaining very accurate detailed information rather than the scant answers of patients on these questions.

Going to the question of physical examination Dr. Eyster stressed the importance of rigid systematic and systemic examination; the importance of studying the eye reflexes and extra-ocular movements; and the special importance of responsibility of the thyroid with relation to certain cardiac manifestations. The importance of differentiating the effort syndrome from the thyroid diseases was emphasized, and in this relation the significance of basal metabolic studies was shown. Dr. Eyster next pointed out that indirect evidence of cardio vascular diseases might be of importance diagnostically exclusive or inclusive of obvious known cardio vascular indications. The special cardio vascular examination should include: (1) The determination of the size of the heart and its contour. The methods used should include inspection, percussion of the deep cardiac dullness, and x-ray methods (orthodiagram and teleoroentgengram); (2) changes in cardio-vascular dynamics under which were studied murmurs, the relation between the aortic and pneumonic sounds, and peripheral vascular signs; (3) the relation in the physiological muscular balance and the integrity of the autonomic and conductive systems. In discussing these points Dr. Eyster stated that the size and contour of the heart probably were the most important of the main points in examinations since reflected by the changes in the contour and size of the heart would be shown any change in the dynamics of circulation and aside from this only changes in condition can be demonstrated. The Bardeen tables were used to denote changes from the normal heart size in the frontal projection as related to an average based on height and weight. Percussion and x-ray studies were important in a confirming relation, the x-ray also being taken at 2 meters. However, it must be clearly understood that the contour of the heart in planes other than frontal are necessary to determine small changes in certain of the heart chambers.

Inspection through the location of the apical impulse merely gives a clue as to cardiac position and size. Dr. Eyster indicated the necessity for cultivating assiduously accurate percussion methods and the necessity for controlling by x-ray to improve accuracy. He outlined the difficulties encountered in percussion, and stated that the right and left borders alone could be made out whereas the upper and lower borders must be arbitrarily drawn. By use of the x-ray two methods were covered; the teleoroentgenogram or two meter method which showed a six per cent distortion, and the orthodiagram utilizing the central ray at right angles and a flouroscopic screen produces accurate results. Dr. Eyster stated that flouroscopy gives rise to great distortions. The Bardeen tables were corrected to the two meter method since no other data is given for the frontal plane, the size being determined by following this outline with a planimeter. It is probable that for the immediate future the best contours will be made by this method, although

obviously the shifting tube utilizing the central ray will give more accurate cardiac outlines.

Turning next to the question of murmurs, systolic murmurs were discussed under (a) extracardiac, (b) accidental, (c) relative mitral, (d) organic mitral, (e) aortic stenosis, (f) pulmonary stenosis, (g) patent ductus arteriosis. The first and second class show no change in size or contour. The third group being myocardial in origin tends to produce a shoe-shaped heart with an enlargement to the right. The mitral organic lesion of the heart shows hypertrophy of the right ventricle, and with a load here on both sides a symmetrical enlargement may result with a triangular shaped heart. Aortic stenosis cases show a unilateral enlargement of the left ventricle; pneumonic responds with a right ventricular enlargement. Bordet and Vacquez, by elaborating the x-ray methods, determined the contour of the heart chambers posteriorly. By the x-ray methods for the contour of the heart Bordet tried to determine the left ventricular curve and the right ventricular curve. It has been determined that the anterior projection of the heart shows only a twenty millimeter salient of the left auricle. Since the left auricle first bears the load as long as it is able to compensate in mitral-stenosis, the importance of this determination becomes apparent. With the orthodiagram, through a study of the pulsation, the junction of the left auricle and the left ventricle may be made out, but more accurate results more obviously arise from a study of the heart contour under a fluoroscope in the lateral and oblique postures. On the posterior contour the left auricle represents the upper half or two-thirds areas, and the left ventricle represents one-half to one-third of the area. The retro-cardiac space is definitely encroached upon from above if the left auricle is enlarged that is to say the space representing the cardiac junction with the spine. The left ventricular hypertrophy encroaches upon this space below. Bordet has further endeavored to study the enlargement of the left auricle and ventricle by the displacement of the shadow on the movement of the tube a definite distance. By this method the variation in the shift of the shadow between normal figures denotes the changes in contour above described.

Murmurs were next considered and the impossibility of an individual diagnosis on the basis of murmurs was emphasized. Their significance in other words depends upon other determinations. Accentuation of the pulmonic second sound, which is dependent upon an increase in intrapulmonary pressure, is of significance in mitral diseases. Of course the same change in heart sounds occurs in disease of the lung, and in either case, if the pressure becomes too great in the pulmonic circuit, softening may result. Blood pressure, pulse, and auscultatory phenomena over vessels must all be studied in cardio vascular cases. The influence of exercise and posture in all of these cases should be looked into.

Electro-cardiagraphic studies were next discussed and it was shown that progressive increase in the "R" complex was determined by a preponderance of the right heart, and a progressive decrease in the "R" complex in the three leads with a reverse "S" occurs in left ventricular hypertrophy, however, this method is not delicate enough. Hermann and Wilson have recently determined that the relative mass of musculature is only one of several factors in determining this change. However, there are a few exceptions to the general rule if the above changes in the "R" become constant. Associated arrhythmia and errors in the conduction system were discussed.

Dr. Eyster concluded his paper by a demonstration of the roentgenograms showing the heart contour of different conditions and also drawings to demonstrate the flouroscopic outline in the lateral and oblique positions.

EXTRAORDINARY MEETING OF THE UNIVERSITY OF WISCONSIN MEDICAL SOCIETY, OCTOBER 26, 1922.

DR. KROGH'S LECTURE ON THE CAPILLARIES.

Although a number of workers have, from time to time, studied capillary problems, it is safe to say that no one has ever approached this important field with the understanding, ingenuity and industry displayed by Dr. Krogh, the eminent physiologist of the University of Copenhagen. Dr. Krogh's work has been done chiefly on the tongue and foot of the frog and on the skin of man. The following points were covered in his lecture before the Medical School of the University.—W. J. Meek.

1. Independent contractility. The prevailing conception of the function of the capillaries has been that they are passive structures and that any change in their size must be due to variations in

arterial pressure. Dr. Krogh's first work was to collect all the evidence possible on this point. By ingenious devices under binocular microscopes, he has now succeeded in stimulating individual capillaries and showing, beyond question, that they may constrict or dilate independently of any change in either the arterioles or venules. Other workers have also believed this, notably Dr. Hooker of Baltimore, but it is Dr. Krogh's voluminous work that has done most to put the hypothesis beyond all question.

2. Mechanism of capillary contractility. Rouget long ago described single contractile cells scattered at intervals around the capillary walls, and attributed any possible constriction of the vessels to their contraction. Later histologists have quite generally felt that Rouget was really describing arteriocles and the capillary wall was unaccompanied by muscle cells. Krogh by means of special stains verifies Rouget's work and finds that the capillaries are surrounded by a sufficient number of contractile cells, presumably smooth muscle, to account for their contractility.

3. Capillary responses to various forms of stimulation. Mechanical stimulation either by light pressure or by touching the capillary with a needle results in dilation. Electrical stimuli are rather ineffective. Both heat and cold cause dilation. Many drugs such as potassium iodide, urethane, adrenalin, and nicotine cause marked dilation. A mechanical or chemical stimulus may spread some distance from the point of application. This occurs when the nerves to the part are cut and is believed to be due to axone reflexes, that is a spread of the stimulus over the network made by the terminal aborization of the sensory neurones. Stimulation of sympathetic fibers from the 9th and 10th ganglia in the frog causes constriction of the capillaries in the web of the foot. These fibers are believed to be in part responsible for keeping the vessels in tonus. Dilator fibers have been found going out in the anterior roots.

4. Tonus of capillaries due to a chemical substance in the blood. Capillary tonus does not depend entirely nor even in most part on the nerves. It persists after all nerves are severed and allowed to degenerate. If the artery to the part is now clamped the tonus disappears and the capillaries widely dilate. On resumption of the blood flow the tonus is regained. This is not due to lack of oxygen. On adding pituitrin to blood or salt solution the capillaries will at once regain and maintain their tonus. Dr. Krogh therefore believes that one of the functions of the pituitary gland may be to preserve tonus of the capillaries.

The lecture was illustrated by a remarkable set of moving pictures of the capillary circulation in various tissues. These were chosen to illustrate example of independent constriction and dilation in the capillaries, and they were both entertaining and convincing. The ease with which individual corpuscles changed their shape when caught in constricting capillaries was vividly demonstrated Dr. Krogh's conception for which he seems to offer ample proof, that the capillaries are an active part of the circulatory apparatus has far reaching applications both in physiology and clinical medicine.

PREVENTIVE MEDICINE

Edited by
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Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wisb to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in tbis section are earnestly sollcited. Questions concerning public healtb procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

THE RESPONSIBILITY OF THE TEACHER AND THE PHYSICIAN IN CARING FOR THE HEALTH OF SCHOOL CHILDREN

BY W. C. SIEKER.

THE SIXTH BIENNIAL CONFERENCE OF HEALTH OFFICERS,

MADISON, WISCONSIN.

August 16, 1922.

I have unbounded faith in the great profession of medicine, in all of its branches, and profound admiration for the wonderful achievements, unselfish devotion to duty and the fine ethical standards of the many splendid men and women who have done so much to alleviate human suffering. Their accomplishments, though not heralded by popular acclaim, none the less constitute a page of glory in the annals of humanity. On the preventive side, we find the practical eradication, or at least a tremendous minimization of such ailments as yellow fever, malaria, typhoid, smallpox, cholera, typhus and the plague. Even tuberculosis, with its appalling toll in human life, going unchecked through the centuries, shows signs of

yielding to the indefatigable labors and the strategy of the hosts that are in alignment against it. The catalogue of accomplishments, both curative and preventive, is too vast to attempt to give even a summary.

And yet, with all of the accomplishments and developments, the unsolved problems, some immediate and seemingly simple, are many and perplexing. Respiratory ailments in general are everywhere on the increase, both in the number afflicted and in the fatalities. Diphtheria, scarlet fever, measles, whooping cough, and the other common communicable diseases of childhood show no signs of abatement. A recent bulletin issued by our own State Board of Health called attention for instance to the especially high scarlet fever morbidity during the preceding year, the highest record in a decade. Two years ago diphtheria was unusually prevalent in the state and nation. The Statistical Bulletin of the Metropolitan Life Insurance Company, basing its conclusions upon the records of its more than 15,000,000 policy holders, in commenting upon the higher mortality in 1920 over 1919, due to diphtheria, measles, scarlet fever, and whooping cough, declares that "the downward tendency has been so trifling as to raise the question whether the present line of attack on these conditions is producing results commensurate with its cost." "Do we need a radical change," it adds, "in the public health procedure against these enemies of childhood?"

It is very evident to every observer that the waves of communicable diseases, as they come and go, are not indicative of control but of the lack of it. Perhaps no better illustration can be cited than the whooping cough epidemic now prevailing in Milwaukee and vicinity. With about 200 cases recorded early in May, the number increases in leaps and bounds to 300, 400, 600, 800, until 1,000 was approximated. There was ample warning but the torrent was permitted to rush on, attacking its victims almost at will, while the health agencies, public and private, looked on, not with indifference, yet helpless and inert, appalled no doubt by their own utter inability to stem the rising tide.

When the schools open in the fall, the morbidity curves, showing the fluctuations of the common communicable diseases of childhood, take a sharp turn upwards. This is always expected and it always happens. Health departments apparently are powerless before the facts. Medical inspection in schools was inaugurated years ago, expressly to combat this situation. While the accomplishments of medical inspection in many ways have been notable, yet in so far as its original objective is concerned, Dr. Rosenau is doubtless correct in his observation when he says in his "Preventive Medicine and Hygiene" (1921 Edition), that "it at once must be admitted that it has been a failure * * * for it has had very slight influence upon the prevalence of measles, scarlet fever, diphtheria, whooping cough, mumps, etc." Not because of indifference, nor because of any lack in effort, yet childhood, it would seem, is unprotected quite as much today against the attacks of these insidious enemies as it was a decade or two ago.

Wherein lies the remedy? It would indeed be a man of uncommon wisdom or of great presumption who would venture to submit a conclusive answer. On the other hand, is there justification in sitting by complacently, satisfied that the machinery for public health administration is functioning properly, when tens of thousands of little children each year become the victims of preventable diseases, paying in their innocence the penalty of our failures?

Does the remedy lie in more vigorous enforcement of quarantine regulations, more prophylactic inoculation, the building up of a body with greater physical resistance, more general sanitation, more and closer medical inspection in the schools? While no one would urge that any of these health activities be curtailed, much less abandoned, yet there must be substantial agreement that the results of the prevailing policies and methods, ever in faultless administration, fall far short of the goal.

It is my humble opinion that the Statistical Bulletin already quoted strikes at the crux of the situation when it raises the questions, "Are we expending enough effort," it asks, "in breaking the channels of communication of these infections, and are we doing it in full knowledge of the natural history of these diseases?" To permit a child to remain in school with symptoms of a fresh cold or watery eyes, excluding it only after it breaks out with the measles; to permit a pupil with a cough to mingle with others until it "whoops"; to release a child from quarantine earlier than six or seven weeks after an attack of scarlet fever; to give a child its freedom during the third week following exposure to chicken-pox

or mumps; to fail to make a thorough-going search for carriers when confronted with diphtheria; to rely upon physical resistance as a protection against infections; or to inspect the plumbing, garbage cans and refuse piles in seeking sources of contagion, is to admit ignorance of the natural history of these infections. Frankly, are we predicating our efforts upon a full knowledge of the natural history of these diseases? Are we carefully scrutinizing the facts and then basing our procedure upon them, unafraid to modify, to amend, or even to reverse our policies when their inadequacy becomes apparent? It is for us, to whom authority and responsibility have been delegated, to fight this fight for the children relentlessly, with the same energy and determination that we would fight a foreign foe in the face of invasion.

Reference has already been made to the increased morbidity incident to the opening of the schools. I have supreme confidence in the schools. They are the bulwark upon which rests the fate of the nation. The schools, however, which should and can be the best support in furthering the aims of health workers, are, in a sense, among its worst enemies. More so perhaps than any other single agency the school is responsible for the spread of these infections. It is the focus from which contagion so often emanates. It is the villain in the act. Not until the schools close for the long summer vacation are health authorities at ease. The teachers, under whose guardianship we place our little children, are unwittingly subjecting them to death dealing hazards. I wish I could say this so that all the teachers of the state might hear. It is a condition that should not and cannot indefinitely be tolerated.

What answer to this indictment? The teachers, I am one of them, are as blissfully ignorant of their culpability as is the mute animal in the field, or even a stone by the wayside. Schooled in the natural history of the butterfly and the bumble bee, the grasshopper and the earthworm, the seaweed and the anemone, and a mass of learning much of it more suited to an earlier age than to the complex life of today, they know nothing, or next to nothing, of the biology or natural history of the organisms or causative agencies responsible for the common communicable diseases of childhood. Tremendous and tragic as is the significance of this information, or the lack of it, not even the specialists in the field of biological science, so far as I know, give it more than passing recognition. It is my belief that just as public opinion demanded that industry should be made safe by industry itself, so should the dictum go forth that the school should be made safe by the school itself. "Just as a worker in industry should be surrounded by every safeguard on the assumption that he has a right to as many fingers when he leaves the factory as when he went in, so have the children a right to come home from school at night as well and as free from infections as when they left their homes in the morning." Who would grant them less? The teachers and school administrators, rural as well as urban, should not be permitted to evade the responsibility of returning the children entrusted to their care free from the invisible mutilation of infections.

But the teachers need help. Herein lies the responsibility of the physician, the nurse and other health specialists. To the medical inspection we must look for leadership in a campaign of education in which the things taught and the things practiced are identities. First of all, perhaps, should be taught the significance of the mischievous common cold. But beware of the prattle of words, the meaningless recitation, or of the expounding of principles to be applied to the remote in time and place. We must live each day what we teach as though we have confidence in our own teaching. The physician or the nurse or the principal or the teacher who comes to a school, particularly of little children with a vicious cold, sneezing and coughing, perhaps in the early or the last stages of influenza or a similar infection, is a public malefactor—either a hypocrite or a fool—and never, no matter what his or her standing, would be tolerated within my jurisdiction.

The school focus of infection should be wiped out by the school itself, acting under the leadership, not of a perfunctory, but of an enlightened and zealous medical inspection. The specific process consists, as I see it, not in abandoning anything that is now being done, but by supplementing it by a program that has for its objective the breaking of the channels of communication of these contagious diseases. Basing my conclusions entirely upon the experience of the three schools over which I exercise health supervision, namely: a small parochial school with four teachers, a public elementary school with about twenty teachers, and the vocational school of which I am the principal, with somewhat more than one hundred

teachers, I am satisfied that this can be done. The proposition is entirely a feasible one. To bring home measles, whooping cough and the like from these schools, is practically unknown. The school foci in these schools have been wiped out by the simple expedient, religiously carried out, of excluding every child that is not entirely well. A cold, a rash, desquamation, a cough, a sore throat, a swelling on the face, a fever—in fact, any indisposition, no matter how mild—is regarded as indicative of probable contagion. We exclude until we have proof that none exists. We take no chances.

How does this affect school attendance? This policy of rigid exclusion results not only in a conservation of health but also in a conservation of school time. The more serious absences of long duration, due to quarantine, are few, while the larger number of a day or two or three, are of little account, in no way interfering with the regular progress of the students and the school.

Does the responsibility of the teacher end with the making of the school safe? I shall not discuss in this paper the constructive work, for instance, along nutritional lines, which is clearly within the domain of the departments of home economics and should be delegated to none others except for needed assistance. The conclusions of McCollum and other investigators in the field of biological chemistry should go to the masses. Nor shall I discuss forms of physical exercises calculated to build a strong, healthy body. These are school problems in which all the teachers should share responsibility.

No one can overestimate the value of raising children of strong physique but the notion that by so doing there are developed specific immunities is a widespread impression that needs correction. What better proof need one seek than the fact that the boys in the service, the flower of our youth, in the very pink of physical condition, proved to be as susceptible to infections as the rejected weaklings at home.

To return to the problem of communicable disease control, the responsibility of the physicians and the teachers does not cease in making the school a safe place for the children. The next objective, in my way of thinking, is the elimination of the neighborhood foci of infection—the preventing of the spread of contagion from house to house. Placarding is calculated to prevent this every evil. No one would argue for a moment that much good has not been accomplished by this means, but the shortcomings of this practice are readily understood when one realizes that placarding follows diagnoses, and diagnoses are not possible until the lapse of a period often varying from several days to several weeks after the incidence of the disease. Effective control requires isolation before diagnoses are possible. Indeed, there should be isolation from the very moment the first symptoms appear. The possibility of contagion should be taken into account from the very outset, and the afflicted should be kept apart from others within and without the household from the very beginning. The channels of communication should be broken long before placarding is possible. It is the failure to do this that is responsible for home foci corrupting the neighborhoods.

To secure intelligent cooperation, as contrasted with blind adherence to a rule or a set of rules, requires a popular knowledge of the natural history of these infections. And then, to cap it all, must be a determination that "contagion shall not travel to a second family." To be indifferent to this ideal should be and can be made as unpopular as theft, or fraud, or violence, or any other great injustice.

We are clearly dealing with a problem in ethics; it involves a discussion of moral standards. Whoever seeks or accepts or takes concessions for his comfort, freedom to mingle with others, when such concessions must result in the mutilation, I use the term deliberately, of bodies of helpless children is striking at sacred rights. A basic ethical principle is involved, though generally not recognized, which should be reiterated and reiterated until it is as familiar to man, woman and child as are the commandments. To expose a child to contagion is a betrayal. It is doing violence to human rights, and should call for outspoken resentment. The usual plea that it was not known that there was contagion is as defenseless as to plead after the injury has been done that it was not known that the gun was loaded.

It is only by a process of education that the needed knowledge in the natural history of infections can be disseminated upon which can be based intelligent action on the part of the public itself in coping with the neighborhood foci. Again, it is only by a process of education that the conception "contagion shall not travel to a second family" can become the accepted ideal of a com-

munity. It is a problem in moral education, in the building of character.

I concede supremacy in the field of preventive medicine to the medical profession, but the educational work vital to its success is the work of the school and teacher. Attempted by any other agency is inviting failure. None other than the school has either the machinery or the contact with the public to make a comprehensive or adequate job possible. It is almost with a feeling of contempt that I often view the pretentious efforts of self-constituted agencies in the field of education attempting through a "drive" or a "campaign" to mold human nature. Lasting results cannot come through sporadic efforts. Habits are of slow growth. And then with a feeling of pity I view the great profession of teaching engrossed largely with things that are in the dead and silent past, or delving deep in the mysteries of some philosophy, or sometimes even waxing warm over mathematical abstractions or a system of penmanship, forgetful that we are living in a world of action, pulsating with present day problems that look to education for assistance in their solution.

The health of the school children is very largely a teacher's problem, whether dealing with the building of strong, healthy bodies, the problem of nutrition, or stemming the ravages of communicable diseases. No teacher or administrator with sight sufficient to see beyond the mere mechanics of schoolroom routine the great objectives of education, will fail to find in the most crowded curriculum a place for this much needed work.

In summarizing, I shall attempt to be brief but specific. Disregarding physical education and the very important work in the field of nutrition, being beyond the limitations of this paper, I have largely confined myself to the health of the child as affected by needless attacks of communicable diseases. Great as has been the progress in other lines, the school child, and also the child of preschool age, is almost as defenseless and undefended as it was a decade or two ago. In the fight for the children nothing now being done should be abandoned, but to rely upon present methods alone is, I fear, a great offender, and the careless or thoughtless or ignorant parent is another. The school focus should be eliminated by the school itself. When measles or whooping cough pass through a grade, the responsibility should be fixed specifically upon the teacher herself. In fact, I should like morbidity announced by school districts. Medical inspection should exercise the leadership, but in itself it cannot be relied upon for the solution. In the very nature of things it is doomed to failure. It lacks both adequate machinery and the contact to make successful control possible.

A big and determining factor in the elimination of the school and neighborhood foci is education. The responsibility of the school is great. It should not be permitted to continue a menace to the health of the wards entrusted to it. Moreover, the vast machinery of our school system should be called upon to disseminate the knowledge upon which intelligent cooperation can be based. Parenthetically, it is my firm belief some may think the idea preposterous, that early in May, at the time the whooping cough epidemic in Milwaukee city and county was acquiring momentum, when it was apparent that the most earnest efforts of an extraordinarily well organized and efficient department of health were as inocuous as a fan attempting to turn back a hurricane, could the aid of the great school system have been enlisted with its ponderous machinery and its ramifications extending into every section in the city, much needless suffering and loss of life could have been averted. The information disseminated by the school should be specific and scientific, and the practice should tally with the preaching. Work expected of the school is not a course in the conventional physiology and hygiene. Such a course is almost as unrelated as would be a history of the Hebrews. Let there be no mistake about this. And finally, the school should, by precept and practice, give expression and emphasis to the ethical principles involved—a recognition of a child's sacred right to health and happiness—reiterating and reiterating the doctrine until it is accepted as orthodox in Wisconsin. It is my earnest hope that this conference of health workers, by resolution, or committee action, or otherwise, will lend its assistance in pointing out to the teaching profession in very definite terms its responsibility and offer its aid in meeting this problem.

Education is a tremendous force. Its inoculations are panacean in a degree that savors of magic. Can the teaching profession be shaken in its conservatism, made to see, and be stirred into action?

PUBLIC HEALTH NEWS ITEMS.

The next state board examination for registration of nurses has been set for Jan. 9, 10 and 11 in the civil service rooms, Milwaukee city hall.

Children who have tuberculosis of the lungs are not permitted to attend school, but well children from the same home may do so.

Failure of a parent to provide proper treatment for a dangerous communicable disease in his child is sufficient cause for citing him before the county judge to show cause why the child should not be placed in an institution to receive proper care and treatment.

Parents, physicians and social workers interested in the best procedure for the development of children with defective speech, mentality or other apparent abnormality, should refer such cases to Dr. Maybelle Park, director of the juvenile protective bureau in the state board of control.

Terminating seven months of continuous operation in the physical examination of children in rural districts, the Child Welfare Special, mortorized child health center, was placed in storage until the 1923 season. Over 4,500 children were examined, instructions for necessary care given, and cases referred to the family physician when deemed necessary.

Workmen contracting typhoid fever from polluted drinking water supplied by the employer are compensable under the industrial commission laws.

If a city council or village or town board refuses to appoint a board of health, the state board of health is authorized to select such members and charge any expense incurred against the unity concerned.

Neither names nor addresses of persons suffering with tuberculosis are reported to the State Board of Health. The local health officer is supposed to have a complete record of each such case recorded, and to report to the state department only the total number of cases.

Exposed children who have not had mumps cannot go to school for 21 days after the isolation of the patient.

Miss Josephine Foote, Hartford, Wis., assumed the directorship of the state cooperative laboratory at Wausau.

Non-residents can be married in this state, but if both parties are non-residents the marriage must be performed in the county where the license is obtained.

When a layman health officer quarantines a person on account of a suspected quarantinable disease, it is the health board's duty to employ a physician to make the diagnosis. Any expense incurred must be paid by the governing unit.

It is not necessary for an owner of a slaughterhouse to have federal inspection or comply with the federal requirements if he does not do an interstate business. If all the meat is sold in the state, the state regulations will apply.

If a physician's visit to a contagious case is made for collecting release cultures and the patient no longer requires medical attention, the expense should be borne by the town, after full knowledge and consent for such procedure on the part of the health board. A visit for administering to the medical needs of the patient is chargeable to the patient.

Smallpox exists in a number of localities in the northern part of the state.

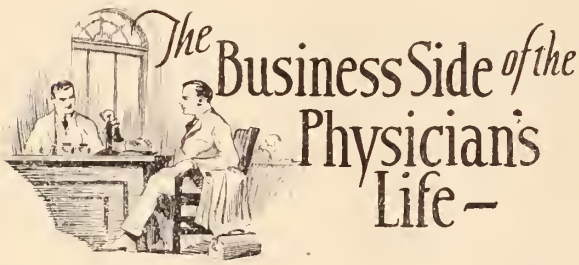
Dr. Coon, head of the River Pines Sanatorium, has estimated that those incapacitated from tuberculosis in Wood County alone are losing $88,000 a year in pay, salary or wages. He bases it on a weekly wage of five dollars.

Dr. Spencer, deputy state health officer for the Wausau district, is giving toxin antitoxin to all the children in the schools of Edgar, Wisconsin.

St. Clement's Parochial School, Sheboygan, has adopted the Schick test and toxin antitoxin for the future.

The State Public Health Committee met on

December 19 in the Senate Chamber in the Capitol. Mrs. Morgan presented to the committee the plans of the State Board of Health for the administration of the Sheppard-Towner bill. Mr. MacGregor of the University Extension Division presented the results of his survey of the health activities of the various official, semi-official, and private public health agencies operating in the state. There was a short discussion of the need for formal instruction in public health and hygiene in the State normal and County training schools.



FARM FINANCING AND THE INVESTOR.

BY MORRIS F. FOX,

PRESIDENT, MORRIS F. FOX & CO.,

MILWAUKEE.

The editor asked me to talk to you physicians this month, and I have selected the Joint Stock Land Bank Bond as being of particular interest this time of year when income tax reports loom large in one's mind. Joint Stock Land Bank bonds are exempt from all Federal, State, Municipal and local taxes, except inheritance tax, making them as fully tax exempt as the Liberty 3½'s. Then, too, these bonds being a government created instrument for handling all farm loans on a similar plan, are of particular interest to the large group of investors who have placed their faith and their money in farm mortgages. In this group physicians have always been prominently represented.

Briefly, the plan and purpose of the Joint Stock Land Bank is as follows: The Federal Farm Loan Act, approved by Congress July 17, 1916, provided for Joint Stock Land Banks to be organized under Federal law, as are National Banks, and to be subject to inspection and supervision by the Treasury Department. The purpose of the Act was to provide long term credits on farm properties at reasonable rates and to standardize the farm mortgage as a security.

The idea, while new to this country, really provides for one of the oldest forms of investment security. As early as 1769 Frederick the Great established the Silesian Landschaft, an association of land holders which issued bonds secured by the collective assets of the members of the asssociation. This association is still in existence.

The ordinary farm mortgage is a local instrument operating in a country which has expanded tremendously, and grown away from this type of farm financing. Guy Huston, President of the Chicago Joint Stock Land Bank says: "Long before the Act was enacted the short term farm mortgage as an instrument of credit had outlived its usefulness. At best it was always a clumsy device. Although based on the soundest values of the world, it was a non-liquid asset. It could not be readily transferred or readily converted into cash. The investor living hundreds or perhaps thousands of miles from the farm could have no personal knowledge of the security and there were no recognized rules and no Federal or State supervision to protect the investor, but he must look entirely to the integrity of the mortgage dealers through whose hands the loans had come. The investor had very often no means of investigating the integrity of the dealer and there have been many bad failures of farm mortgage companies. Several recent failures of prominent mortgage companies during the past few months again forcibly bring to mind that when such a company fails, having been under no regulation for years, there are often heart breaking losses on the part of investors and farmers. Charges of forgeries, duplication of mortgages, misapplication of funds paid in by farmers to be applied on mortgages generally follow."

The plan and workings of the Joint Stock Land Banks are simple and direct. They are organized with a minimum capital of $250,000, and no bank can function until this capital is fully paid in. As in the case of a National Bank, the liability of each stockholder is double the amount of his stock, giving double protection to the investor. The banks are subject to examination twice a year by government examiners, and are also required to accumulate a reserve fund, by setting aside 25% of their net earnings until a 20% reserve has accumulated; thereafter, 5% annually must be placed in reserve.

The Joint Stock Land Bank has one function, and one only—lending money on direct first mort-

gage on farm property in the state in which it is located and one adjoining state. Therefore, in Wisconsin, the bulk of the loans would be on the rich farm lands of Southern Wisconsin and Minnesota. These mortgages are limited by law to not more than 50% of the appraised value of the land and 20% of the permanent, insurable value of the improvements. This gives an unquestioned security. The loans must be made on the government's amortization plan providing for the payment of the interest and principal in fixed installments, in not less than five nor more than forty years. Each loan must be passed on by an official appraiser appointed by the Federal Farm Loan Board.

To finance these loans, the Joint Stock Land Bank then issues bonds with the mortgages themselves deposited as security. In other words, the Joint Stock Land Bank bond is a bond collateralized by farm mortgages or you may call it a split farm mortgage. These bonds in convenient units of $500 and $1,000 each, are then offered to investors. The farmer reaps a double advantage: His mortgage is placed on a definite long-term basis; he makes regular payments thereon at stated intervals. In addition, the small town bank should be able to keep its funds in a more liquid condition as it will have less direct call for farm financing.

Now you ask, how does the investor benefit? First of all, there may appear to be a seeming disadvantage in that the coupon rate of 5% on the Joint Stock Land Bank bond is a per cent lower than the 6% average rate obtainable on the individual farm mortgage. But this difference is not real. On a $1,000 bond, 6% is just $10 more per year than 5%. If you are in the market to purchase a farm mortgage, you must first of all spend some time looking around for the particular type and the size and the maturity that you wish; you must examine the condition of the property which the mortgage is to cover, but seldom can you, yourself, do this. You delegate the task to an agent and his fee will in all probability much more than offset several years' difference between 5% and 6%. And again, in case of re-sale, you have this same expense and time, energy and money to consider.

The 6% received on the farm mortgage is fully taxable both by the Federal and State Governments. The 5% received on the Joint Stock Land Bank bond is non-taxable. With the present agitation for legislation to eliminate the tax-free bond and in view of the fact that this legislation cannot be retro-active, the bond of today which is tax-free should become increasingly valuable.

The investor in Joint Stock Land Bank bonds has his appraisal, his investigation of abstract, his legal work done for him by experts. The danger of over-loaning on a piece of property is far removed. He knows that his bonds must comply with the requirements of the Federal Government and that, as far as is humanly possible, he has a properly issued mortgage bond.

The convenient units in which the Joint Stock Land Bank bonds are issued is an advantage to the investor. Supposing you have but $1,500 to invest. If looking for a mortgage yourself, you must first find John Jones who needs just a $1,500 mortgage on his property. Perhaps you are anxious to place your money for five years and John only wants to borrow for three. Because you are having a little difficulty in finding someone who needs just $1,500, you must take this mortgage for three years and at the end of that time again go through all the procedure of re-investment. In the purchase of a Joint Stock Land Bank bond, you order $1,500 par, and, even though the bonds actually mature 20 years hence, you are at liberty to sell yours at any time that you wish if you find that you need the money.

The largest banks and bond houses in Wisconsin are interested in the distribution of the bonds of the Bankers Joint Stock Land Bank of Milwaukee. They have a large responsibility in seeing that the bonds are properly protected, carefully issued, and promptly paid. If you wish to sell, all you need to do is to talk to your own banker or your investment advisor and he will take care of the matter for you.

In this standardization of farm mortgage financing the effect of local disturbance upon local farm mortgages is removed. If you hold a Joint Stock Land Bank bond and general farm conditions are good, it makes no difference whether or not some particular disaster has occurred at your own home town. You have a broadly marketed and widely known security.

And last, but not least, there is the advantage of privacy. With the individual mortgage, the transaction is a matter of public record and in the purchase of a Joint Stock Land Bank bond, your transaction is known only to yourself and your advisor.

It seems to me that this subject is one of prime interest to a group of men of the importance and standing of that represented by the readers of the WISCONSIN MEDICAL JOURNAL, for the physician is a leader in the thought and activities of his community. Very briefly have I tried to acquaint you with the basic points in this new method of farm financing. It is axiomatic that we can have no real prosperity in this country unless the farmer is prosperous. To be prosperous, he must have financial aid which will enable him to follow a definite plan and to receive an adequate return for his crops. The most obvious proof that the present methods of farm financing are antiquated is seen in the marked rise and fall of farm commodities. The old method provides for the clearing up of obligations when the harvest is in. The result is the dumping onto the market of the bulk of the harvest at one time, often depressing prices until the profit for the farmer is gone.

The Joint Stock Land Bank is an institution conceived and authorized by the Federal Government to place the farmer on a sound financial basis, to so aid him that he pay certain amounts at regular intervals and have a longer period for the total obligation. It should tend to stabilize prices and the movement of farm products. In so doing it should make business and collections better and sounder for all of us, including the doctors.

THE PROPAGANDA FOR REFORM IN PROPRIETARY MEDICINES, Vol. 2, 1922.

Containing Reports of the Council on Pharmacy and Chemistry and contributions from the A. M. A. Chemical Laboratory and from *The Journal of the American Medical Association*. Cloth. Price, $2.00. Pp. 603 with illustrations. Chicago: American Medical Association, 1922.

The present book is the second volume of the "Propaganda for Reform in Proprietary Medicines." The first volume ran through nine editions. The ninth edition contained (1) the most important reports of the Council on Pharmacy and Chemistry, (2) the reports of the A. M. A. Chemical Laboratory, and (3) those articles from *The Journal of the American Medical Association* which deal with the problems of proprietaryship in medicine and the furtherance of rational drug therapy. All of this material covered a period prior to 1917.

The present (second) volume contains similar material covering the period from January, 1917, to April, 1922, inclusive. Like Volume 1, this volume is divided into four parts:

Reports of the Council on Pharmacy and Chemistry:—This section presents the principles and rules which govern the Council in the examination of medicaments, contains articles and reports bearing on the work of the Council as well as the most important reports of the Council from 1917 to April, 1922, inclusive.

Reports of the A. M. A. Chemical Laboratory:—This, besides presenting the aims and objects of the Association's Chemical Laboratory, also outlines some of the Laboratory's work which is of special interest to physicians.

Contributions from The Journal: Proprietary Products:—This contains articles which have appeared in *The Journal A. M. A.* on proprietary preparations and their methods of exploitation.

Contributions from The Journal: Miscellany:—In this section are articles dealing with matters of interest to the medical profession but not coming strictly under the classification of proprietary medicinal preparations.

A comparison of the material that has appeared in Volume 1 of the Propaganda for Reform with that which appears in this volume will reveal the changing conditions in the proprietary medicine field. Many of the reports in the first volume brought out the fact that medicinal preparations were at that time foisted on the profession with false claims of composition; reports of this character are less conspicuous in the present volume. Many of the reports in Volume 2 deal with unwarranted therapeutic claims, especially those advanced for animal organ preparations, serums, vaccines, preparations for intravenous medication, etc. The present volume will also be found of interest in its portrayal of the changed conditions in proprietary medicines brought about by the World War.

The index in this new volume is, in effect, a bibliography, including references not only to articles in the book but also *(a)* to articles which appeared in Volume 1; *(b)* to articles on the same general subject in *The Journal of the American Medical Association*, and *(c)* to articles appearing in the annual reports of the Council on Pharmacy and Chemistry and of the A. M. A. Chemical Laboratory, but not printed in either volume of the Propaganda for Reform in Proprietary Medicines.

This book is not only valuable for the information it contains, but it is also interesting. It shows up the technique of the artist in the sale of proprietary medicines, tells of his skilful word-pictures that are sent to the physician as "literature." It makes clear the work of the Council on Pharmacy and Chemistry, the A. M. A. Chemical Laboratory and *The Journal of the American Medical Association* in their several capacities as servants to the medical profession and as champions of rational medicine. The book should be in every physician's library, and more than that, should be within reach for convenient reference.

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SOCIETY PROCEEDINGS

DANE COUNTY

The Dane County Medical Society held its regular monthly meeting at the Association of Commerce Building, Madison, January 9. Dr. Wm. Middleton, Madison, spoke on "Lower Lobe Tuberculosis," and Attorney Carl N. Hill, Madison, on "Expert Testimony."

DOUGLAS COUNTY

At the annual meeting of the Douglas County Medical Society held at Superior a vivid word picture was painted of the conditions in Russia by Dr. Michael M. Zlatovski, until four months ago a doctor in Petrograd. The business part of the meeting included election of officers for the coming year.

JEFFERSON COUNTY.

The Jefferson County Medical Society met for their annual meeting at Watertown, December 19, in the Armory. The members were the guests of the Watertown City Medical Society at a banquet which followed the regular business meeting. The business session was devoted to the election of officers and a very intense general discussion on the subject of "Abortion of Adverse Medical Legislation in the Chambers of the Bill and Law Incubator."

LA CROSSE COUNTY

The annual meeting of the La Crosse County Medical Society was held at La Crosse on December 7, at which time officers for the coming year were elected.

MANITOWOC COUNTY

The Manitowoc County Medical Society held its annual banquet December 5, at the Holy Family Hospital, Manitowoc. Officers were elected for the ensuing year following which the members were entertained with a talk on child welfare work by Miss Laura M. Chase, city health nurse.

MARATHON COUNTY

At a regular meeting of the Marathon County Medical Society held December 7, at Wausau, Dr. C. H. Davis of Milwaukee gave a lecture on "Minor Therapy of Pregnancy, Labor and Puerperium," followed by a general discussion.

MEDICAL SOCIETY OF MILWAUKEE COUNTY

The regular meeting of the Medical Society of Milwaukee County was held at the Hotel Pfister, January 12. The following program was presented:

1. The Pathogenesis and Treatment of Peptic Ulcer. Lantern slide demonstration. By Dr. Ralph Brown of Chicago.
2. Nephritis in Relation to Some of the Allied Systematic Disturbances. By Dr. Wilbur E. Post of Chicago.

MILWAUKEE ACADEMY OF MEDICINE

The following program was given at a meeting of the Milwaukee Academy of Medicine after election of officers and reading of the year's reports:

1. Presentation of Clinical Cases and Pathological Specimens.
2. Infections—Notes from the clinical view point, by Thomas J. Watkins, M. D., Chicago.

MONROE COUNTY

The Monroe County Medical Society met at the Hotel Sidney, Sparta, January 4. A six o'clock dinner was served to thirteen members of the society following which officers for the coming year were elected.

PRICE-TAYLOR COUNTY

Price-Taylor County Medical Society held a very interesting meet and banquet on December 18, the banquet being given in honor of Dr. F. J. Gaenslen of Milwaukee. Dr. Gaenslen gave a talk on his experiences abroad. The members of the Eau Claire County Society were guests of the Price-Taylor Society. Officers were elected at this meeting for the coming year.

WALWORTH COUNTY

The Walworth County Medical Society held its annual meeting at Elkhorn, December 20.

WINNEBAGO COUNTY

A meeting of the Winnebago County Medical Society was held at Oshkosh, December 19, at the Elk's Club. Officers were elected and an interesting talk was given by Dr. H. W. Morgenroth, Oshkosh, on infections of the nose.

NEWS ITEMS AND PERSONALS

Dr. W. F. Lorenz, Dr. W. J. Bleckwenn, Dr. F. J. Hodges, and Dr. R. L. Kenny have formed the Madison Neurological Clinic at 109 W. Washington Ave., Madison. The work of the clinic is limited to neurology, psychiatry, syphilis, cardiac and endocrine disorders, the service being both diagnostic and therapeutic. Limited hospital facilities for the treatment of syphilis in all its phases, especially late manifestations and syphilis of the central nervous system are available at Madison, and special attention is paid to metabolic and cardiac disorders. The diagnostic service of the clinic includes psychoneuroses, psychoses, conduct and behavior disorders in children. The clinic is equipped to

render special service in serological examination, dark field examination, lumbar puncture, basal metabolism, cardiac fluoroscopy, blood chemistry and electrocardiography.

The next annual session of the Wisconsin Surgical Association will be held at La Crosse, Wis., on Wednesday and Thursday, May 9 and 10, 1923. A most interesting program is promised by the arrangement committee, and a preliminary outline of the same will be published in the next issue of the Journal. The last two meetings of the Society have been well attended and worth while. Invitation is extended to all members of the Wisconsin State Medical Society to attend this meeting. Make note now of the date and place of meeting.

Dr. Percy Brown, Roentgenologist at the Jackson Clinic, Madison, was awarded the Gold Medal of the Roentgenological Society of North America at its recent meeting in Detroit. Dr. Brown was formerly president of the Society and received the medal because of his distinguished research in X-ray diagnosis and therapy.

Recommendations for construction of a 150-bed county emergency hospital on the Schandein site, Twenty-fourth St., and Grand Ave., Milwaukee, have been made. It is recommended that Emergency hospital, 320 Sycamore St., be moved to the proposed new institution.

Arraigned in court at Green Bay, Dr. V. W. Rapp, Wayside physician who was arrested after a six weeks' search following his sudden disappearance and desertion of his wife and child, was bound over for hearing in bonds of $3,000. Three charges were preferred in the complaint against Dr. Rapp.

Dec. 26, Miss Catherine M. Mahoney, assistant superintendent of Bradley Memorial hospital, University of Wisconsin, and Lawrence M. Mitchell, Chicago, were united in marriage at the parsonage of St. Paul's university chapel.

Dr. R. C. Smith and Dr. M. H. Barsness of Superior have been commissioned captain and first lieutenant, respectively, in the 128th infantry regiment medical detachment.

Dr. R. B. Montgomery, son of Dr. R. C. Montgomery, will practice medicine with his father at Madison.

Dr. Henry B. Hitz was appointed chief of staff of the Milwaukee Children's hospital, succeeding Dr. Clarence A. Baer, who retires to become vice president of the staff.

Dr. O. E. Lademann was elected president of the board of trustees of Emergency hospital, Milwaukee, at the annual meeting of that board in Emergency hospital December 28. Dr. Philip Rogers was chosen vice president and Dr. H. W. Powers, secretary.

Edgerton's desire to erect a permanent memorial to the boys both living and dead who fought in the World War, will culminate next February in the completion of a $45,000 memorial hospital.

The Oshkosh Social Medical club was addressed by Dr. Louis Warfield, professor of medicine at the University of Michgan, at the Athearn hotel, Oshkosh, on Dec. 27.

The entire personnel of the postal service, about 333,000, will be given free vaccination against smallpox, typhoid fever and para-typhoid fever.

A campaign to raise $200,000 to build an addition to Mercy hospital, Oshkosh, is to be undertaken soon.

The American Hospital association will hold ts annual convention in Milwaukee during the week of Oct. 28, according to Frank Cleveland, convention secretary of the Association of Commerce.

Care of contagious diseases in Milwaukee county through acquisition of the city isolation hospital by the county was recommended by the committee on county institutions and finance of the county board.

The Wisconsin branch of the International Sunshine society scattered Christmas sunshine in the Milwaukee County hospital this year by founding a library for that institution.

Ripon college has again broadened its scope of activities. At the last regular faculty meeting, it was voted to establish a pre-nursing course in conjunction with the pre-medic work. The course was made possible through the consent of Columbia hospital, Milwaukee, to recognize the preparatory college work as credit toward the degree received at the Columbia school for nurses.

Dr. H. B. Tanner, Eastland, Texas, for many years a practitioner at Kaukauna, is president of the Eastland County Medical Society.

Dec. 15, 1922.

Wisconsin State Medical Journal,
Milwaukee, Wis.

Gentlemen:

Will you be kind enough to insert the enclosed announcement in your news items to appear in your January number?

X-ray Sectional Meeting.

The Central Section of the American X-ray Society will hold its mid-winter meeting in Louisville on Saturday, February 24th, 1923 for one day including an evening session. All members of your Association are invited and those interested in X-ray work are urged to attend as we feel they will be well repaid for one day's absence from their office.

Officers

E. C. Ernst, St. Louis, Mo., President.
J. T. Murphy, Toledo, Ohio., First Vice President.
B. R. Kirklin, Muncie, Ind.,Second Vice President.
D. Y. Keith, Louisville, Ky., Secretary.

Very truly yours,
D. Y. KEITH,
Secretary of Central Section.

DEATHS

Dr. C. F. Hess, well known Madison physician, died in St. Petersburg, Florida, January 2. Dr. Hess was a graduate of Rush Medical.

Dr. Joseph Gartenstein, 59, a Milwaukee physician for about 10 years, died at his Chicago home.

Dr. M. E. Connell, Oshkosh, died Jan. 8, of cerebral hemorrhage. Dr. Connell was born in Burlington, Vermont, in 1848. He was a graduate of Rush Medical College and was a former member of the American Medical Association, The State Medical Society and the Fox River Valley Medical Society. For many years he was Medical Superintendent of the Milwaukee County Hospital where he was associated with the late Nicholas Senn in the development of the Decalcified Bone Plate for Intestinal Anastomosis.

MARRIAGES

Miss Bertha Dudey, Milwaukee, to Dr. William F. Becker, Milwaukee, December 23.

POST GRADUATE SCHOOLS FOR VETERANS' BUREAU PHYSICIANS.

In order to render the best possible professional care and treatment to disabled ex-service men, Colonel C. R. Forbes, Director of the Veterans' Bureau announces that he is about to establish Post Graduate Schools for physicians now connected with the Bureau and those who wish to join this Service.

There will be two Schools for the teaching of the diagnosis, care and treatment of pulmonary tuberculosis, one at Fitzsimons General Hospital, Denver, Colorado, and the other at U. S. Veterans' Hospital No. 41, New Haven, Conn. The courses at these hospitals will be uniform and will run simultaneously. Each course will last two months, and will include collateral branches of medicine such as pathology, X-ray plate interpretation, physiotherapy, etc.

Before attending the Schools physicians now in the Service will be given a preliminary course which will be established under competent instructors in each of the Veterans' Hospitals for tuberculosis. They will then be selected to take the Post Graduate course at Fitzsimons or New Haven. Specialists not connected with the Bureau will be invited to attend and give lectures to the students. It is anticipated that at least three courses of two months duration each can be run during the year in the east and west.

As more physicians with special knowledge of tuberculosis than are already in the Service will soon be needed it is hoped that this demand will be supplied from the profession at large. Applications for admission to the Schools with a view to service in Bureau hospitals may be sent to Colonel C. R. Forbes, Director, Veterans' Bureau, Washington, D. C.—Attention Clinical Director of Tuberculosis.

INTRAVENOUS THERAPY.

During the past five years there have appeared in medical journals increasing numbers of articles on the subject of intravenous medication. A survey would indicate widespread employment of intravenous therapy in clinics and private practice.

It is evident that the difficulties and dangers associated with the injection of large volumes, as was carried on as a hospital procedure, have been overcome. In the face of prejudice engendered by the injection of large volumes of extemporaneous solutions, the pharmaceutical work of Loeser has demonstrated that what was an impractical hospital procedure, could be converted to a safe and practical office and bedside technic.

Reports on clinical work done with Loeser's Intravenous Solutions in this country and abroad have brought about renewed interest in this more accurate and scientific method of administering remedies. Realizing that intravenous injection is a serious procedure at all times, Loeser has developed methods of standardization that safeguard the patient and physician. Intravenous solutions require a higher standard than any other pharmaceuticals. It is a special field of work that demands specialized attention.

The demonstration of the safety and practicability of intravenous medication will prove of much benefit to the profession. This demonstration could only have been accomplished with standardized, accurate, intravenous solutions.

The October number of the Journal of Intravenous Therapy contains many interesting abstracts on intravenous medication from American and foreign medical journals. If you have not received your copy, write in for it. JOURNAL OF INTRAVENOUS THERAPY, 100 West 21st Street, New York City.

THE NEW SHORT WAVE LENGTH ROENTGEN-RAY THERAPY.

Combined with the internal employment of radium, James T. Case, Battle Creek, Mich. (*Journal A. M. A.*, Aug. 26, 1922), asserts that the new deep roentgenotherapy should be employed as an adjuvant to surgery in all cases of deepseated malignant disease. Preoperative irradiation carefully planned will not interfere with the surgical procedure, and it gives every promise of being helpful by diminishing the prospect of recurrence of the disease. Postoperative irradiation is also undoubtedly a help. Case uses the combined roentgen and radium irradiation, both preoperatively and postoperatively, when the diagnosis is established before the surgical procedure; at least postoperatively when the operation discloses the malignant nature of the disease. The tendency is to become more and more conservative in the selection of cases for radical removal of malignant uterine disease, believing that even in the early and distinctly operable cases it is justifiable to rest on the combined radium and roentgen application, although in practice we still operate in such cases. In breast cancer, he recommends the radical operation for all malignant lesions in an operable stage, but does not neglect the associated irradiation.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Thyroid and Thymus. By André Crotti, M. D., F. A. C. S., LL. D. 2d Edition thoroughly revised, with 105 illustrations and 39 plates in colors. Lea & Febiger, Philadelphia and New York. 1922. Price, $15.00.

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M. D., St. Paul. 5th Edition revised and enlarged. 14 color plates and 623 other illustrations. Philadelphia. P. Blakiston's Son & Co. 1922. Price, $12.00.

Diseases of the Ear, Nose and Throat. By Wendell Christopher Phillips, M. D. 6th Edition, illustrated with 578 halftone engravings and 37 full page plates. F. A. Davis Co., Philadelphia. 1922.

Premature and Congenitally Diseased Infants. By Julius H. Hess, M. D. Illustrated with 189 engravings. Lea & Febiger, Philadelphia and New York. 1922. Price, $5.50.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillian Co., New York. 1922.

A Manual of Diseases of the Eye, Nose and Throat. By Cornelius G. Coakley, A. M., M. D. 6th Edition, revised and enlarged. Illustrated with 145 engravings and 7 color plates. Lea & Febiger, New York and Philadelphia. 1922. Price, $4.25.

The Medical Clinics of North America (New York Number). Vol. VI, No. III, November, 1922. By New York Internists. Octavo of 365 pages and 21 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, $12.00; Cloth, $16.00 net. W. B. Saunders Company, Philadelphia and London.

The Golden Bough, A Study in Magic and Religion. By Sir James George Frazer. The Macmillan Co., New York. 1922. Price, $5.00.

Constantinople Today, or the Pathfinder Survey of Constantinople. A Study in Oriental Social Life. Under the direction of Clarence Richard Johnson, M. A. The Macmillan Co., New York. 1922. Price, $5.00.

Some Impressions of My Elders. By St. John G. Ervine. The Macmillan Co., New York. 1922. Price, $2.25.

A More Honorable Man. By Arthur Somers Roche. The Macmillan Company, New York. Price, $2.00.

The Red Redmaynes. By Eden Phillpotts. The Macmillan Company, Philadelphia.

Rest, Suggestion and other Therapeutic Measures in Nervous and Mental Diseases. By Francis X. Dercum, M. D. Philadelphia. P. Blakiston's Son & Co. 2d Edition.

The Kingdom of Evils. By E. E. Southard, M. D., and Mary C. Jarrett. New York. The Macmillan Company. 1922.

The Practice of Preventive Medicine. By J. G. Fitzgerald, M. D. St. Louis. C. V. Mosby Co. 1922. Price, $7.50.

Nervous Ills, Their Cause and Cure. By Boris Sidis, M. D. Boston. Richard D. Badger, The Gorham Press. 1922.

Life Shortening Habits and Rejuvenation. By Arnold Lorand, M. D. Carlsbad. Philadelphia. F. A. Davis Co. 1922. Price, $2.50.

Types of Mental Defectives. By Martin W. Barr, M. D. 31 plates containing 188 illustrations. Philadelphia. P. Blakiston's Son & Co. 1922.

Tuberculosis, Its Cause, Cure and Prevention. By Edward O. Otis, M. D. New York. Thomas Y. Crowell Co. 1922.

Signs of Sanity and the Principles of Mental Hygiene. By Stewart Paton, M. D. New York. Charles Scribner's Sons. 1922. Price, $1.50.

The Biology of Death. By Raymond Pearl. Philadelphia. J. B. Lippincott Co. 1922.

The Foundations of Personality. By Abraham Myerson, M. D. Boston. Little, Brown and Company. 1922.

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner, M. D. 2d Edition. St. Louis. C. V. Mosby Co. Price, 75c.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery. 2d Edition. Philadelphia. P. Blakiston's Son & Co.

Acute Cases in Moral Medicine. By the Reverend Edward E. Burke. New York. The Macmillan Company. 1922.

Mind-Energy, Lectures and Essays. By Henri Bergson. New York. The Macmillan Company. 1920.

The Laws of Sex. By Edith Houghton Hooker. Boston. Richard G. Badger, The Gorham Press. 1922.

Regional Anesthesia. By Gaston Labat, M. D. With a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

A Short History of the World. By H. G. Wells. Illustrated. New York. The Macmillan Company. 1922.

Neighbors Henceforth. By Owen Wister. New York. The Macmillan Company. Price, $2.00.

A Daughter of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

A Son of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume II, Number VI), St. Louis Number, December, 1922), 248 pages, with 105 illustrations and complete Index to Volume II. Per clinic year (February, 1922, to December, 1922). Paper, $12.00 net; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

Diseases of Women. By Harry Sturgeon Crossen, M. D., F. A. C. S. 5th Edition, Revised and Enlarged, with 934 engravings, including one color plate. C. V. Mosby Co., St. Louis. 1922. Price $10.00.

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod. 4th Edition, with 243 illustrations, including nine color plates. C. V. Mosby Co., St. Louis. 1922. Price $11.00.

Physical Diagnosis. By W. D. Rose, M. D. 3d Edition. 319 illustrations. C. V. Mosby Co., St. Louis. 1922. Price $8.50.

Syphilis. By Burton Peter Thom. Illustrated with 69 engravings. Lea & Febiger. Philadelphia and New York. 1922. Price $5.50.

Injury, Recovery and Death. In Relation to Conductivity and Permeability. By W. J. V. Osterhout. Philadelphia and London. J. B. Lippincott Co. Price $2.50.

A Young Girl's Diary. Prefaeed with a letter by Sigmund Freud. New York. Thomas Seltzer. 1921. Price $5.00.

Bronchoscopy and Esophagoscopy. By Chevalier Jackson, M. D., Professor of Laryngology, Jefferson Medical College, Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Octavo of 346 pages with 114 illustrations and 4 color plates. Philadelphia and London. W. B. Saunders Company. 1922. Cloth $5.50 net.

The Elements of Scientific Psychology. By Knight Dunlap. Illustrated. C. V. Mosby Co., St. Louis. 1922. Price $3.50.

An Outline of the Pirquet System of Nutrition. By Dr. Clemens Pirquet, Professor of Pediatrics at the University of Vienna, Austria. 16mo of 96 pages. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, $2.00 net.

A Text-Book on Minor Surgery. By C. Vaughn, M. D., and Athel Campbell Burnham, M. D. Illustrated with 459 engravings. Lea & Febiger, Philadelphia and New York. 1922.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D. 3d Edition. Illustrated with 129 engravings and 28 plates. Lea & Febiger. Philadelphia and New York. 1922. Price $8.50.

The Evolution of Public Health Nursing. By Annie M. Brainerd, Editor of the "Public Health Nurse," Lecturer on Administration of Public Health Nursing in Western Reserve University. 12mo of 454 pages, illustrated. Philadelphia and London. W. B. Saunders Co. 1922. Cloth, $3.00 net.

Lectures on Dietetics. By Max Einhorn, M. D., Emeritus Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. 12mo of 244 pages. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, $2.25 net.

Animal Parasites and Human Disease. By Asa C. Chandler, M. D., Ph.D. 2d Edition, revised. New York. John Wiley & Sons. Inc.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M. D. 4th Edition. with 172 illustrations. Philadelphia. P. Blankistou's Son & Co. 1922.

A Manual of Pharmacology and Its Application to Therapeutics and Toxicology. By Torald Sollmann. M. D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. 2d Edition, Entirely Reset. Octavo of 1,066 pages. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth Edition, Revised. Octavo volume of 749 pages, with 1,252 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Polished Buckram, $8.50.

Clinical Medicine: Tuesday Clinics at the Johns Hopkins Hospital. By Lewellyn F. Barker, M. D., LL.D., Professor of Medicine, Emeritus, Johns Hopkins University; Visiting Physician to Johns Hopkins Hospital, Baltimore, Md. Octavo of 617 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. VI, Number 1, July, 1922. By St. Louis Internists. Octavo of 203 to May, 1923). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

BOOK REVIEWS

Thyroid and Thymus. By André Crotti, M. D., F. A. C. S., LL. D. 2nd Edition, thoroughly revised, with 105 illustrations and 39 plates in colors. Lea & Febiger, Philadelphia and New York. 1922. Price $15.00.

To begin with this is the most beautiful medical book binding which has come to our attention in many a year. It comes dressed in a three-quarter leather with hard board sides and deckle-edged. The illustrations both plain and colored are unusually fine. The work is the result of seventeen years in the field of goiter pathology and surgery in Switzerland and this country, the author having served as first assistant in the pathological laboratory of Professor Henry Stilling in Lausanne. Almost all of the first edition has been revised and a great many chapters have been rewritten. An exhaustive bibliography has been added. The work is exhaustive and covers every phase of the thyroid and thymus in a masterly way. The author and publisher alike are to be congratulated.

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M. D., St. Paul. 5th Edition revised and enlarged. 14 color plates and 623 other illustrations. Philadelphia: P. Blakiston's Son & Co. 1922. Price $12.00.

Every section of Dr. Greene's popular work has been expanded by important additions. The author has striven to give a better understanding along the now unrealized possibilities of the early recognition, prevention and retardation of diseases of the heart and blood vessels, now taking first place on the list of causes of premature death. He has greatly expanded the sections dealing with polygraphic and electrocardiographic technic and interpretation. He has added a most interesting section on influenza. The whole volume deals with practical diagnosis and covers the entire field of internal medicine. A symptom index incorporated in this edition greatly increases the usefulness of the volume. It is a work of some fifteen hundred pages, and will be found a most useful reference in the library of any medical man.

Diseases of the Ear, Nose, and Throat. By Wendell Christopher Phillips. M. D. 6th Edition, illustrated with 578 halftone engravings and 37 full page plates. Philadelphia: F. A. Davis Co. 1922.

Dr. Phillips has succeeded in presenting the essential factors of the principal diseases of the ear, nose and throat in plain and readable style. Of especial value

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to the general practitioner is the section devoted to the influence of general diseases and conditions upon the ear, nose and throat. The 6th edition shows important revisions and additions to the original text. The work's adoption as the standard textbook by the majority of the medical schools of the country attests its value and the popularity of its reception.

Premature and Congenitally Diseased Infants. By Julius H. Hess, M. D. Illustrated with 189 engravings. Lea & Febiger, Philadelphia and New York. 1922. Price $5.50.

The contents of Dr. Hess' new work is divided into four general parts. The first covering Etiology, Physiology and Pathology, the second, Nursing and Feeding Care, the third, General Diseases, and the fourth, a discussion of the Outlook for the Premature. Considering the importance of the subject as indicated by the increase of premature births and the lack of any definite collection of material on the care of prematurely born infants, Dr. Hess has indeed made a most important contribution to the medical literature of the day. It is a work which should be in the library of every general practitioner.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. New York: Macmillan Co. 1922.

This work is not a systematic treatise on psychopathology or psychoanalysis, but a discussion of some of the fundmental problems which must be solved before our knowledge in this field may be accurately systematized. It covers Freudian Formulations, The Relationship of Psychoanalysis and Suggestion, and the Preconscious Phase. It is written along the lines of newer thought in psychiatry and psychology and handles the subject admirably.

A Manual of Diseases of the Eye, Nose and Throat. By Cornelius G. Coakley, A. M., M. D. 6th Edition revised and enlarged. Illustrated with 145 engravings and 7 color plates. Lea & Febiger, New York and Philadelphia. 1922. Price $4.25.

This work has for many years been considered one of the most valuable of the briefer texts on the subject, and has deserved an ever increasing popularity. The present edition shows careful revision and changes. It is a compact manual, answering the needs of both students and practitioners.

IN LIGHTER VEIN

The Golden Bough, A Study in Magic and Religion. By Sir James George Frazer. New York: The Macmillan Co. 1922. Price $5.00.

This is a new one volume edition of the original "The Golden Bough" published in twelve volumes. The author's account of the origin of many superstitions and religions among the primitive races. It is a most valuable and interesting discussion of anthropology and comparative religion. Among the subjects covered in the volume are the principles of magic and its relation to religion and history; the evolution of kingship; the worship of trees; the propitiation of game and fish by hunter and fishers; the principles of taboo; the life and violent death of human gods; the custom of the scapegoat; the fire festivals of Europe; and the theory and practice of the external soul. It is the result of thirty years of study and research and is most interesting indeed.

Constantinople To-Day, or the Pathfinder Survey of Constantinople. A study in Oriental Social Life. Under the direction of Clarence Richard Johnson, M. A. The Macmillan Co., New York. 1922. Price $5.00.

Eight organizations interested in betterment work in Turkey cooperated in making the Pathfinders Survey of social and economic conditions in Constantinople. We know of no such comprehensive and accurate account of present day Constantinople as is here recorded. The first chapter gives the historical setting and subsequent sections deal with civic administration, community organization, industrial life, refugees and orphanages, recreation, widowhood, adult delinquency and the native schools. The work is splendidly illustrated with full page half-tones, is a volume of 418 pages, and will be found most interesting and instructive.

Some Impressions of My Elders. By St. John G. Ervine. The Macmillan Co., New York. 1922. Price $2.25.

The gifted author of "John Ferguson" in these informal essays tells intimately of the foremost writers of England and of Ireland, whom he numbers among his friends. Among these—Galsworthy, Shaw and Synge, Wells, Yeats and Chesterton, Arnold Bennett and George William Russell. The matter was originally contributed in the shape of a series of articles in the North American Review. These character sketches are witty, entertaining and present these well-known men to us in a new light.

A More Honorable Man. By Arthur Somers Roche. New York: The Macmillan Company. Price $2.00.

The well-known novelist has given us a yarn presenting the last thirty years through the reactions of its characters as he sees it. It is a frank love story devoid of prudery and carrying a lesson of the times. The story moves rapidly, the characters are real, and it will be found interesting reading for an idle hour.

The Red Redmaynes. By Eden Philpotts. The Macmillan Co., Philadelphia.

Eden Phllpotts has given us another mystery novel which returns to his Dartmoor country, and which will rival his "The Grey Room." There is a real detective, a baffling crime and a dramatic unfolding of the plot which keeps one guessing to the end.

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ORIGINAL ARTICLES.

NEUROSES AND THE CHRONIC INVALID.*

BY HUGH T. PATRICK, M. D.,

CHICAGO, ILL.

Probably few of us realize how artificial our living is; that from the cradle to the grave life is a constant conflict between what we instinctively should like to do and what society bids us do. Very early the normal child learns that certain perfectly natural functions may not be performed in a completely natural way. He may not micturate in the living room, take a handful of sugar from the bowl nor strike his little sister. The ten commandments are edicts against what we would do if unrestrained. All laws, ordinances, taboos and social conventions are the same. Our instincts and natural desires are increasingly controlled and repressed; we are constantly trained and pruned and directed for society's good. Some of us stand it pretty well; adapt ourselves as well as the majority and an indulgent public calls us normal. Some of us can't, or don't, make the adjustment and we then are the unhappy, the unsuccessful, the ill; the criminals, the insane; the tramps, the paupers, the cranks; the dwellers in sanitariums and hospitals, the misfits, the chronic invalids.

Of a certain number of men in trouble, that is, in a difficult, painful, perplexing or intolerable situation, one deliberately runs away, one unconsciously runs away (ambulatory automatism; the "amnesia" of the newspapers), one gets drunk, one prays, one falls into "nervous prostration," one gets intractable dyspepsia, one becomes intolerably irritable and irascible, another resorts to deception and chicanery, and some are able manfully to struggle through the difficulty to success or honorable defeat. Now, the "nervous prostration" and dyspepsia really are behavior reactions to the situation just as are the running away, the resort to prayer or alcohol. Instead of "nervous prostration" the reaction might be headache, backache, insomnia, a feeling of general weakness, palpitation, phobias, tics, dizziness, convulsive attacks, functional paralysis, eye strain, etc. And if these things last long, behold the chronic invalid. In fact, chronic invalidism from physical disability alone is not so very frequent.

A strikingly lucid exposition of the neuroses we got during the war. A large body of men picked as normal in civil life, was sent to military camps for training. Some of them could not make the adjustment and fell ill with neuroses. That is to say, the situation with all it involved, present and future, was intolerable. They did not and could not fit in. The neurosis was a way of escape. In various camps in this country I saw typical cases of "shell shock" in men who had never even heard a machine gun. Other men "broke" only when they got to the training camps in France, others were normal until they got just back of the firing line, and still others were all right until among bursting shells and slaughter, when they escaped by way of the war neuroses which had saved their less stable fellows in the peaceful camps of the United States. In short, the neurosis was a most disagreeable means of escape from something infinitely more distressing.

Now we have the post-war neuroses and some of these mean chronic invalidism. The principle is exactly that of the more acute cases. The man back from the service finds a situation which for him is intolerable or unbearably trying. He just can't meet it. To live the rest of his life a chronic invalid is far from ideal, but on the whole it is preferable to what he otherwise would have to do.

An ex-service man was referred to me for comptocormia, or bent back, which kept him bent forwards and sidewise. That is, he had a peculiar and constant twist in his spine. In about fifteen minutes this was corrected and he carried himself normally, but I had no confidence in the permanence of my cure and asked to see him the next day. He returned just as bad as ever. I then had time to ascertain that before the war he had been a porter in a barber shop; a position neither exalted nor lucrative. Now he wished the Gov-

*Part of a symposium on The Chronic Invalid before the Wisconsin State Medical Society, September 8, 1922.

ernment to pay him a monthly stipend and send him to Armour Institute for three years so that he might become a civil engineer—a professional gentleman of easy income. Of course, if he got a normal back it meant return to the barber shop—a contingency now absolutely unendurable.

Another ex-service man, who had an excellent record as an officer, was disabled by bad tics, headache, insomnia and general weakness. Before the war he had never earned more than $2,500 a year. Now he wanted to marry and said that he could not on less than $5,000 a year. He would not give up his fiancée and he could not possibly earn over $2,500. He could not meet the situation. A neuroses was his alibi—and his appeal to Uncle Sam to take care of him. (Of course, I don't mean that these men or other patients with a neurosis are conscious and deliberate simulators and frauds.)

The war and post-bellum neuroses are good illustrations because they are relatively simple. In the more complex neuroses of civil life the principle is the same.

Fourteen years ago I saw two young men with bad acute anterior poliomyelitis. Both nearly died and neither ever got out of a wheel chair. The one with less advantages of money, education and influence became a fairly successful fruit grower: a busy, useful and happy citizen. The other became a chronic invalid, slothful and sour, a burden to himself and others. Two men lose an arm. One can meet the situation, the other cannot. Two men have *equally* bad chronic rheumatism. The one is entirely disabled, the other earns his living. That is, in one case the man dominates the situation, in the other the rheumatism does. Two women have hyperchlorhydria. One is a confirmed dweller in a sanitarium. The other is the head nurse who helps to run the institution. The following is a common type:

"A middle-aged woman had been operated on for ruptured perineum, rectocele, and 'ulcer of the womb'; later, for hemorrhoids and laceration of the cervix. Still later, she had a curettage, and then the ovaries and tubes were taken out. Finally a hernia, a relic of one of the previous operations, was repaired. No very exhaustive investigation was required to show that this patient never had been physically disabled, but that she always had been intellectually and temperamentally absolutely unequal to life's demands. Each operation was only an additional urge into physical invalidism as an escape from the toil and responsibilities that fell to her lot. That such treatment tends to perpetuate the trouble is obvious. If dysmenorrhea and pelvic pain are really a recourse from laborious housekeeping, ventrifixation fixes the mental attitude of the patient. And the next operation for adhesions makes her more adherent to her disability."

"An unmarried woman of 29, doing office work, for ten years had had attacks of dyspnea and palpitation, great weakness and insomnia. Although she positively and honestly denied that she was afraid of anything, exact questioning showed that she had several intense phobias. She really was ill and had been for ten years. But the trouble was not the heart muscle; it was lack of adjustment to her job, her associations and necessary conditions of living. Fortunately, she married happily, and her bodily complaints all disappeared."[1]

An unmarried woman, educated, cultured, a lady, had been an invalid for years with severe headaches, "stomach trouble," "rectal trouble," ready exhaustion, loss of weight, anemia, abdominal and pelvic tenderness. She had enteroptosis with the right kidney far down. One of New York's greatest surgeons took out the appendix and fastened up the prolapsed kidney. A skillful gynecologist did a ventrifixation and curettement of the uterus. These measures relieved her not a bit. She was given a prolonged rest cure by a past master of the art. This helped as little as did the surgery. After starting to treat her I gave up the job because I could not control the situation. She continued to be the same suffering martyr, no pleasure to herself and the despair of her family. Finally circumstances gave her an active, taxing, not to say laborious occupation, but an occupation that was congenial in an environment that fitted her. Presto! The baffling symptoms of organic disease, the profound prostration, the disabling pains disappeared and for years she has continued to be a very busy, exceedingly useful and quite happy woman.

The following case shows a similar and the obverse mechanism:

A young man of ample means, shy and a bit effeminate, in business with a considerate relative, was never well, seldom happy, frequently irascible. He retired to a small farm where he raised a few

[1]Patrick. The Patient Himself. Jour. A. M. A., Jan. 10, 1920.

fancy sheep and experimented in crossing flowers—all to his complete satisfaction, and with perfect health. Circumstances forced him back into business and the hated city. He developed rebellious stomach trouble, insomnia and headache, lost considerable weight and frequently his temper, and again became a regular contributor to the income of a well-known stomach specialist. He went back to the farm and now again all is well.

Treatment.

The big questions are, what can we do and what shall we do with the chronic psycho-neuroses, with the chronic nervous invalid. Time restriction allows me to present only a few indications and comments. They sound like truisms but are too infrequently followed.

1. An accurate diagnosis. Unfortunately this often requires not only an adequate conception of the nature of a neurosis, but also painstaking, patient, bold, even exhaustive investigation of all the influences inducing behavior anomalies.

A single woman, 42 years old, had held a responsible clerical position until the age of 29. At about 26 she began to grow nervous, sleepless, timid, to suffer from a sense of extreme fatigue, poor mental concentration, headache and crying spells. She consulted a number of physicians, most of whom said she had neurasthenia, but many diagnoses were made. Finally one doctor told her she *must* give up her occupation and take a prolonged rest; advised her to go back to the farm and raise squabs. This she did at the age of 29 and thus she had been living for 13 years with no material improvement.

When she came to me a most competent assistant took a detailed history with essentially the above-indicated result. Results of physical examination were practically negative. Obviously the findings in history and examination were inadequate to account for the symptoms and a few direct questions properly put brought the desired result. She had begun to masturbate at an early age, had almost given it up, but at about 15 had begun again and indulged more or less frequently. In her late "teens" she began to worry about it and at 24 or 25 began to think that people could tell that she was a masturbator. These thoughts grew in intensity and scope and when 26 she was convinced that people thought her a bad, unclean and immoral woman. And these thoughts had continued all these years. Never had she revealed them to doctor or friend or relative. Needless to say no physician had sufficiently explored the case to come upon them. After the confession was fully completed I said, "If I had not got this out of you would you have gone away and never have said a word about this worry which has kept you ill so long?" And she replied, "I certainly should." In short, a diagnosis never having been made, how could this patient be properly treated?

A middle-aged happily married woman for a long time had been distressingly "nervous" and had received much treatment without relief. She had a number of phobias; could not go to market without great effort and much discomfort and often left a grocery before completing her purchases because of palpitation, a sense of oppression and a feeling that she was about to faint or collapse. She would not visit her friends and if she saw one of them approaching her house was in a panic lest she should come in to call upon her. She was much depressed over her inability completely to meet her duties as wife and mother. More than an hour's careful questioning quite failed to reveal the cause. Three prolonged sessions were needed before, through a dream, we learned a story of her childhood and youth which explained the whole trouble. It is to be noted that the patient had not for a moment forgotten these early repugnant episodes nor buried them in the subconscious, but never for an instant did she suspect that they had anything to do with her present trouble and naturally was silent about them. Yet a diagnosis of this case was simply impossible, and naturally treatment futile without a knowledge of these events.

A woman in the fifties was in bed and partially isolated, being given a rest cure for extreme "exhaustion," "mental depression," general nervousness and insomnia. Results of physical examination were nil. When asked to walk across the room, at first she declined but then did so very slowly, hesitatingly and apparently with great effort. After insistence and reassurance she walked rapidly and finally ran. Then questioning brought the facts. She had tinnitus. For her, as for many people, this was a noise "in the head." Two of her friends had suffered "strokes." For her the noise in the head meant an impending stroke, death or paralysis, but this paralyzing fear she had not mentioned to a soul and her doctor had not unearthed it: he had not made the diagnosis. When the simple and harmless nature of her

trouble was explained to her, she got up and went off to California on a pleasure trip.

2. A neurosis being the result of maladaptation, obviously, appropriate treatment means an intelligent effort to mould the patient to fit his environment or change the environment to fit the patient, or both. This sounds formidable, and often it is. Sometimes it is impossible; as impossible as it is to restore an old fibroid lung or an ancient small granular kidney or to fit a primeval savage into modern civilization, or to carry an imbecile along with his class in school. But sometimes it is ridiculously easy.

A girl of 18 years had been completely aphonic for three years. During most of that time she had been making daily visits to a doctor's office for electric treatments—nice mild treatments which the patient for the greater part gave herself. We soon ascertained that the trouble was functional and had begun as a laryngitis coincident with some domestic dissatisfaction. The laryngitis disappeared but the aphonia remained. The first thing was to get rid of the parents. The next thing was to show the patient that she could phonate, could make a noise other than a whisper. With a proper syringe I threw some cold water into her larynx. Naturally she coughed vigorously and loudly. Having called her attention to this obvious sound I told her that with some assistance to the muscles and nerves of her throat she would be able to say "ah"; that the treatment would be painful but effective, and I hoped would be very brief. We then passed a *strong* faradic current through the front of the neck while I told her to say *ah*. She struggled to get away but said *ah* only in a whisper. I casually remarked to my assistant that we would have to use it stronger—which we did and in a moment the patient said *ah*, but rather feebly. After a brief rest the dose was repeated and soon she said *ah* well. In the same way she said the different vowels and then she said them without the current. The rest was easy. In a few days she talked naturally, could sing and yell loudly.

A young married man, emaciated, anemic, weak, was brought to the hospital on a stretcher. He could just stand. The stomach was rebellious and he had attacks of "collapse" when it was feared he would die. There was no organic disease. By means of isolation, training, encouragement, getting hold of his personality, in a word by education, he was put upon his feet, got back his strength and confidence and was ready to go to work. But was he readjusted? Not yet. In his case there was a complex conflict of influences involving "in-laws" and other associations, resentment and lack of courage on his part and a childish tendency to lean upon his devoted wife. I sent him to a job in New England under a solemn agreement to neither see his wife nor any relative for a year. During that year he did make the adjustment, his wife joined him and he made good.

3. The technique is not a matter of routine but of individualization. *The management of a neurosis always means the management of the individual.* Sometimes, though rarely, the simplest suggestion suffices. Sometimes the suggestion must be more elaborate. Some patients are best managed by the "persuasion" of Dubois. For some, quite elborate explanation and exposition are necessary. Once I got a man started right by giving him a brutal smack in the face. It is amazing how many neuroses are based on fear; a fear unrecognized or only vaguely felt. Naturally, the fear must first be uncovered and clearly defined and the regeneration of a coward must be accomplished in accord with the personality of the patient. Sometimes cure means prolonged reeducation and training, with many relapses and backslidings. A fruitful occupation in which the patient can be really interested is the logical medicine for many.

4. In conclusion, and to repeat, we must "make the punishment fit the crime." A neurosis is a mental disorder, a behavior reaction, and must be treated in accord with its nature. Who would give asafoetida or valerian to cure a hobo from tramping? Did anyone ever suggest strychnia or Dr. Bunkem's Iodophosphatic Tonic to cure the pathological liar? Is the rest cure a good measure against prostitution, removal of the ovaries a cure for holy rolling and change of scene a panacea for inebriety? If a man tries to be a Napoleon of finance and fails, do we advise massage and stimulating baths? If he has hypochondria or simply a champagne appetite and a beer pocketbook, do we remove his appendix, straighten his septum, drain his gall-bladder and finally give him bromide? I am sorry to say sometimes we do. But we shouldn't.

THE CHALLENGE OF THE CHRONIC HEART PATIENT TO THE MEDICAL PROFESSION.*

BY ROBERT H. BABCOCK, M. D.,

CHICAGO, ILL.

This I take it may be expressed in four words: Can I be cured? Unfortunately we doctors know that an organic heart lesion precludes the possibility of the heart ever being restored to a state of anatomic perfection. But if we doctors on discovering a cardiac defect assume at once that the heart is irretrievably damaged we are liable to make a serious mistake, for many a heart with a structural defect may yet be functionally competent. Not only has Sir James Mackenzie emphasized this in his admirable little book, "The Future of Medicine," but it was proven in the case of many a soldier in the recent terrible war. We all perhaps can recall instances that illustrate the fallacy of regarding every structurally imperfect heart as a functionally incompetent one. I recall a man of seventy-three who, notwithstanding a rheumatic mitral insufficiency from his sixteenth year, had yet led a strenuous life both physically and mentally without conscious inconvenience. At length, however, because of neglect of a pair of infected tonsils, with repeated attacks of acute tonsilitis, he developed a streptococcus viridans endocarditis that terminated his career.

Such instances as the one just cited should make us realize that we are not to judge of a cardiac lesion by one sign alone, as for example by a murmur, but must seek for additional evidence of injury in the heart itself and for secondary effects on other organs. We must consider the character of let me say the murmur. A systolic bruit, especially at the apex without evident enlargement of the heart, may be compatible with absolute functional integrity, and the patient may be dismissed with such assurance. Diastolic murmurs on the other hand are far less favorable, and yet even in such cases it is often folly to infer a speedy termination of usefulness. In valvular lesions, therefore, and even in many elderly persons in whom we know the myocardium to be more or less damaged, we may often give a relatively encouraging answer to the query: Can I be cured? Our duty, then, is clear to instruct the patient as to his limitations and to point out his dangers. If some focal infection exists, as in tonsils or tooth-root abscesses, or if the habits are likely to prove injurious, the diet faulty or the daily work excessive, the individual should be informed how and why these things need to be corrected. In particular with regard to the lesions of chronic endocarditis or of syphilis, it is our plain duty to seek for foci that may harbor dangerous streptococci and to advise their eradication even by surgical means. And right here it may be said that in many, many cases surgical intervention is likely to be far less dangerous to the already damaged endocardium, yes even to the anatomically defective myocardium, than is the retention of the germ-harboring tonsils, teeth or appendix. It goes without saying, however, that the surgical intervention must be conservative and skillful, and as to the nature of the anesthetic, if one be necessary, ether never kills the heart. On this point the patient, often alarmed by the very thought of an anesthetic, may be positively assured.

It is out of the question in the brief time allotted to this paper to discuss the therapeutic treatment of cardiopaths further than to say we may in many cases meet the challenge of the chronic cardiopath more effectually by educating him than by insisting on rest in bed and prescribing digitalis. Teach him how to take care of his heart and guard it from still further damage. If we cannot put the heart back into a condition of anatomic perfection, we may at least do much to keep it in statu quo.

A second point which I hold to be of very great importance in the management of persons with evident organic defects or with symptoms taken by them to indicate serious heart trouble, is not to put fear into them by some such expression as "You have a bad heart," or, "Your heart is enlarged," or, "You have fatty degeneration of the heart." Fear often does more actual harm than does the lesion itself. Many instances of the kind have come to my notice directly or indirectly. I heard recently of a physician who on examining an elderly man and discovering signs of incompetence, told him to make out his will and to purchase a burial lot, as he was likely to die at any minute. Was that not cruel?

Still another instance of the harm resulting from judicious opinion based on the detection of a cardiac lesion is the following. A young woman who was a student at a well-known university applied for gymnasium work and on being examined

*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 8, 1922.

by the physician in charge was told she could not take the work because of having "a bad heart." Thereupon she became so frightened that for the next week she was in a state of actual hysteria. Upon being presented at my office for examination her alarm was such that she could scarcely speak aloud, while her heart was beating at 160 a minute and hands and feet were ice-cold and wringing wet. The examination disclosed a well pronounced mitral regurgitation of rheumatic origin, though without signs of visceral stasis. It was ascertained moreover by careful inquiry that previous to receiving the disheartening opinion, she had been able to play tennis and engage in other athletic sports without discomfort from dyspnea or other manifestation of heart strain. Therenpon she was assured that her heart was not in so serious a state as she had been given to believe. It was explained to her that undue gymnastic work might have done her heart harm, and that the doctor was probably right in refusing permission for the physical training. Then after having assured her that she might resume her former exercise provided she did so with moderation and care, not to disregard nature's warning as shown by breathlessness, etc., I dismissed the girl with the statement that her heart was nothing like so bad as she feared. When after another week she reappeared for examination, she was entirely calm and cheerful.

It is unnecessary to multiply cases as might easily be done illustrating the baneful effect of fear in cardiopaths whose hearts are functionally sound though not free from pathology. I desire only to emphasize the harm often sure to result if we allow our judgment to be biased by the recognition of some pathologic condition as against painstaking inquiry into the previous history and weighing well the subjective and objective symptomatology. In my consultation work I am often impressed by the observation that physicians nowadays seem to have been well grounded in pathology and in the use of or reliance on instruments of precision, as sphygmomanometer, X-ray, Electrocardiograph and all other laboratory methods of investigation without having been taught the value and importance of careful clinical examination of patients. It seems to me very evident that a painstaking physical study of a case should always precede the use of instrumental means. The steps in the examination of every individual with a suspected cardiac lesion should be as follows: First, a minute inquiry into the history past and present, including, of course, the patient's description of his symptoms; then, secondly, the examination of the body in other parts than the heart, and lastly, the study of the organs of the chest. And here let it be said emphatically that auscultation should always be postponed until after all possible information has been gained by palpation and percussion in the order named. Only in this way can we protect ourselves and our patients against wrong or exaggerated interpretation of what the stethoscope may reveal. And let it be reiterated that even when we recognize a positive organic heart lesion we should take care not to instill fear by giving a cold-blooded statement that the individual has a bad heart or is in danger of sudden and perhaps speedily following death. If pressed for a truthful diagnosis, as we often are, we may yet so tone down our opinion or so mitigate its seriousness by tactful and kindly words as meet the patient's inquiry without throwing him into a panic.

Before concluding this paper, I desire to call attention to that numerous class of patients who come to us because alarmed by unwonted pain or other sensation in the region of the heart or on account of a sudden attack of palpitation so-called. Either of these sensations may occur alone or the precordial pain may be accompanied or followed by rapid or irregular heart-action. I do not refer to organic angina pectoris or to auricular fibrillation, but to neuralgia usually of the fourth and fifth left intercostal nerves and to tachycardia, termed by the patient "Pounding of the heart," or to simple intermittence due to ventricular extrasystoles, the attacks being occasional, not constant. This class of cases is not confined to the laity, for I have seen many level-headed doctors frightened badly by just such systoms which made them suspect something seriously wrong with their hearts. In all such instances we should not conclude heart disease to be present until so convinced by careful inquiry into the history and by the discovery of indubitable evidence of a cardiac defect. But even in some cases with signs of a cardiac abnormality, we shall err if we at once conclude the heart to be primarily responsible for the symptoms.

It would be going afield to discuss the diagnostic points in these cases and hence I say at once I refer to cases of plain intercostal neuralgia and at-

tacks of disturbed heart action due to some agency extrinsic to the heart. The etiologic factor may be some toxic agent producing an intercostal neuritis or upsetting cardiac action through the vagus. Therefore, before assuming the heart to be at fault and telling the individual his pumping apparatus is responsible, we must do our entire duty to the patient by seeking for and removing the toxin or other disturbing factor. The cause may reside in diseased tonsils or teeth or digestive tract in cases of nerve irritation or in some agent introduced into the system from without as the abuse of tea, coffee, tobacco and nowadays rarely alcoholic beverages. Palpitation has been found in women due to visceroptosis or pelvic displacements. But the point I wish particularly to emphasize is that not only is it seldom necessary but usually unwise to order the patient to bed. Certainly we should be careful never to frighten the patient even should auscultation disclose a systolic murmur. It is not uncommon for a systolic bruit to appear during the disordered cardiac action and then to disappear when the heart has become quiet and regular.

Finally we do not rightly meet the challenge of the actual or supposed cardiopath unless we avoid rendering him a neuropath through fear. In short, the psychical management is as essential, often more essential, than is rest, digitalis and other commonly employed therapeutic measures.

THE RELATIONSHIP OF CARDIOVASCULAR RENAL DISEASE TO THE CHRONIC INVALID.

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The study of vital statistics shows that there is a sharp increase in the death rate of adults between the ages of 45 and 55, just at the time when man should be at his maximum of efficiency. When this fact is submitted to analysis it appears that the increase is chiefly due to organic defects and diseases that might be ascribed to the "wear and tear" of life. The weaknesses uncovered by the attritions of life, which prove to be man's undoing, are chiefly vascular in character. Apoplexy, kidney insufficiency, heart failure and coronary disease account for the majority of deaths after middle life is reached. It will be seen that the relationship of the cardiovascular-renal system to chronic invalidism and disability is an important one.

As ordinarily employed in clinical medicine the term cardiovascular-renal disease is meant to designate such conditions as are characterized by the presence of an elevated blood pressure. Broadly speaking, the clinical material included falls roughly into four subdivisions according to the predominant manifestations and ultimate termination.

There is first the type called "essential arterial hypertension," wherein there presents an elevated blood pressure without discoverable secondary or associated organic defects of importance and usually without symptoms. Nearly, if not quite all, cases of hypertensive cardiovascular disease belong to this group at some time during their clinical course. The remaining three types, according to the organ which suffers most severely, are designated: 1. Cerebral, which terminates usually by cerebral apoplexy or thrombosis. 2. Cardiac with severe lesions developing in the myocardium and coronaries, causing marked disturbances of the heart's function with probable death from heart failure or from angina pectoris. 3. Renal. This type developing a slowly progressive kidney degeneration, with secondary functional failure, ending eventually in uremia.

This classification is a purely arbitrary one and should be qualified with the proviso that many mixed cases occur in which it is difficult or impossible to judge where the severity of the strain and the secondary organic failure are most apparent.

The pathogenesis of hypertensive cardiovascular disease has never been satisfactorily explained. The idea that it is due to arteriosclerosis is no longer seriously entertained, although it is recognized that the two conditions are closely related. Arteriosclerosis is probably more frequently an outcome of the elevated blood pressure than the cause of it. The probable truth is that when they are associated their development is co-incidental or simultaneous as results of a common cause. What the cause is still remains obscure. No deciding proof of any theory yet advanced is forthcoming.

Various causes which are generally credited as

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possessing importance are the wear and tear of life, chronic infections processes and intoxications. Perhaps there should be added to these the factor of heredity, certain organisms apparently being for obscure reasons more enduring than others. The influence of heredity is just as impossible to explain as is growth and longevity in different species of animals, and we do not know why some individuals live to a ripe old age, having passed through hardships, infections, strains, etc., while others succumb easily and early. It is easy to understand the enormous and increasing strain to which heart and arteries are subjected as life advances. It is agreed that modern high tension life whereby the individual is kept under the spur of ambition and competition with inadequate mental relaxation and insufficient physical exercise may do much to induce cardiovascular and renal damage.

There is much reasonable ground for the belief that chronic infectious processes play an important role in the etiology of these conditions which we are considering. Ophuls studies 500 consecutive autopsied patients who had been carefully investigated clinically during life. His observations served to show that vascular lesions were almost entirely lacking in cases wherein no sign or history of infection existed, whereas they made their appearance early and frequently in those cases where infection had been detected. Septic (rheumatic) infections were found to be the usual associated factors. Syphilis is, of course, well known to attack the arteries, but does not frequently cause high blood pressure lesions. Intoxication (alcohol, tobacco, lead) are influences of uncertain importance. There is undoubtedly a certain functional or spastic (vaso constrictor) element at work in certain cases. The transient high pressure of neurogenic origin is well known. The high blood pressure of the menopause is a case in point and certain instances have been attributed to endocrine disturbances, but with doubtful certainty.

With their brief definitive references to the subject-matter of my topic let us pass to the question of our obligation to this type of chronic invalid.

I have practiced medicine long enough to be able to recall the introduction of the sphygmomonometer into clinical practice and I am able in my own experience to pass in review the entire history of high blood pressure as a definite mathematically computed clinical state. The retrospect is not an encouraging one. An immense amount of theory clinical and pathological discussion have been accumulated dealing with this subject, but when results are consulted it must in all honesty be confessed that it is at least an open question whether we are farther along in our understanding of the matter or greatly better able to deal with our patients than we were in days before instrumental precision widened the field without correspondingly enlarging the outlook. The mistake we have made, it appears to me, is that we have considered high blood pressure too much in terms of pathology, whereas we have been dealing with a perverted or disturbed physiology. May it not be that when a man has a high blood pressure he has by that token passed his limitations? That by reason of his environmental maladjustments, deliberate or otherwise, he has offered up to life something in excess of what by nature he had to give and that his cardiovascular wear and tear is a measure of his debt to life. There is a clear conviction on the part of biologists that man's body has not undergone any marked progressive changes in recorded time and will not in the future. We know nearly all that we shall ever know about the physical range of variation in man. Man must get along with the kind of body he has always had. Physically speaking, man is standing still, but life is growing more complex. It is speeding up the machine whose potential cannot be increased proportionate to the demand. This we may presume is the true inwardness of the effects of wear and tear. Add to this the undermining effects of infections, the handicap of bad habits, and the ineradicable influence of heredity, and it is small wonder that the cardiovascular invalid is always on our list of patients. What do we do with these patients when they consult us? Too often, without discrimination, we treat them as if they had some definite and serious pathology. Partly as a result of this attitude on our part and partly no doubt as a result of the ill considered publicity which the symptom "high blood pressure" has received in magazine medical propaganda these individuals feel themselves confronted with an early prospect of apoplexy, heart failure or other dire result; a mental state which requires strong resolution and fortitude to endure.

The ominous association of such words as arteriosclerosis, Bright's disease, apoplexy, angina pectoris and myocarditis, with the symptom high blood pressure, has received such wide currency

that no avenue of escape appears open to the hypertension patient. He feels as if he were caught in a trap from which there is no escape. Our plain duty to these individuals, it appears to me, is instruction and reassurance. On our examination of these patients we should first of all determine beyond a doubt that the elevation of pressure is a persistent phenomenon and not the result of the psychic stimulation of the consultation room. We should next carefully determine to what extent the heart has been affected by the overload and so far as we may, the functional capacity of that organ. Next and most important it remains for us to determine the condition of the kidneys, especially regarding their functional integrity, by blood chemistry study or kidney function test. Upon the functional condition of heart and kidneys depends largely the welfare of these patients and this is the determining factor in our therapeutic management. Aside from these organic details we should make an intensive study of the patient to inform ourselves regarding his habits, mode of life, existence of infections, bearing in mind that most high blood pressure is principally the result of over-work, nervous and psychic strain and environmental disharmonies. If the case does not prove to be one of high pressure secondary to nephritis, and if the heart is competent, the outlook is good for life and usefulness. Certainly I am not willing to concede that high blood pressure necessarily means apoplexy or heart failure or renal or arterial disease. The fact that a man of 45 with high pressure dies at 60 of apoplexy, having escaped the many other hazards of life, is surely not highly significant, for man cannot live indefinitely and there must be some cause for the termination of life. In our studies on blood pressure certain standards have been set up which we have accepted blindly. We have not properly correlated physiology and pathology along this line, and it seems to me that most of the supposed facts of blood pressure that we accept are still open to proof and subject to doubt. The sphygmomanometer is used entirely too often and variations from a supposed normal are given entirely too much significance. Useful as it may be in diagnosis, we are dealing with a physiologic manifestation which fluctuates within a wide range in health just as does the pulse and total urine output. Except in the comparatively few cases which arise secondarily to a primary nephritis our studies have failed to definitely correlate any pathology with arterial hypertension. This leaves us free, at least for the present, to discuss it as a functional disturbance, as I believe it is in the majority of cases. Many instances are, I feel sure, a vascular neurosis due to anxiety states, persistent nervous strain, and psychic stimulation; much the same kind of phenomena as nervous dyspepsia, diabetes insipidus, spastic constipation, etc. Proof of this is easy to secure if we follow our cases of simple hypertension through the vicissitudes of their lives. In certain other instances chronic low grade infective toxemias may be the determining factor in upsetting the vascular equilibrium. The elimination of foci of infection exerts a beneficial effect on this condition too often to be a mere coincidence. Endocrine causes very occasionally play a part. The influence of chronic thyroidism in causing high blood pressure is well known. A normal blood pressure may follow thyroidectomy. Bad habits, excessive eating, constipation, over-indulgence in tobacco are likewise unfavorable factors in causing vascular reactions. Hypertension in its early stages may be greatly relieved by changes in the manner of living.

After organic changes in heart, arteries or kidneys have come to pass a definite state of invalidism is established. Decompensation is inaugurated. The end is, however, even then far off in the majority of cases. The kidney vascular secondary is not an active or progressive nephritis. Functional kidney failure is very slow and uremia is not common. The heart of high pressure is a muscular organ that struggles bravely to carry on and rarely gives out quickly. Consequently in treating these conditions that may last for years therapeutic extremes should be avoided. In management of the high pressure cases control is more effective than treatment. The most important item is the proper instruction of the patient. In view of the fact that hypertension once established is in some degree permanent the patient must for his welfare and peace of mind make friends with his ailment. In the minds of most patients blood pressure is synonymous with apoplexy or Bright's disease; a misconception that makes them apprehensive. Every trivial symptom they ascribe to high pressure. They become morbid and introspective. We should try our best to gauge the temperament of the patient to reassure him as far as possible, placing the matter before him in its most encouraging aspect, assuage his fears, leaving him with a realization that his symptom

is of more potential than actual importance, so that the necessity of following instructions may be clear to him. Unless there is obvious need for physical retrenchment, such as is apparent from heart weakness or disquieting symptoms, he should not be advised to retire from business. This is advice often given and frequently with disastrous results. The patient finds himself with no focus for his attention save his own ills and he begins an elusive quest for health. In this matter we should follow the golden rule and do to the patient as we would be done by. We should in matters of personal hygiene, after a careful analysis of the patient and his habits, be as strict as necessary, but no more. A careful search should be made for foci of infection and each one found should be as far as possible dealt with. This may make no apparent difference in the progress of the case, but it is along the line of causal therapy. Since, as previously stated, it is probably true that high pressure often arises from man's struggle with his environment and is an expression of overstrain, we should conscientiously seek to eliminate harmful factors—bad habits should be slonghed off, the doctrine of moderation in all things being preached. The indolent should be urged to exercise; the strenuous to rest more. Intensive all-absorbing application to business should be forbidden—a routine of vacation established. Play should be mixed with work, etc., etc. Since man cannot live by bread alone, but must be supplied with interest and employment for his faculties, his occupation should receive earnest attention. We should assure ourselves that whatever our high pressure patients do, it should be agreeable and congenial to their tastes. An uncongenial task is worse than none at all. Business hours should be short so as to secure ample time for relaxation. Strenuous distracting affairs are harmful. Among the employee class we should constitute ourselves social service factors to the extent of assuring that our patients in their work are not exposed to harmful strain. Without going into these matters further there can be no question, I think, that the arrangement of these patients' personal habits and hygiene is a matter about which we cannot take too much trouble. It is the most important of all items of treatment in cardiovascular diseases. I shall refer but briefly to diet in hypertension diseases. If it is found that hypertension complicates a nephritis, the patient's diet should be regulated according to the kidney efficiency. Should nitrogen retention exist, low protein fare should be enforced and the quantity of food strictly controlled. If, however, there be no important sign of kidney involvement present and function observations display good renal adequacy, there is nothing to be gained by subjecting the patient to a self-denying diet. Most of the diet advised in hypertension states revolves around the principle that protein should be reduced to a minimum. So far as I can see this is simply a therapeutic legacy without any sound basis to fortify it. No convincing evidence has ever been brought forward that any particular kind of meat is more harmful than another, and although excess of meat is to be avoided, too great a restriction of total protein cannot be imposed for any period without impairing the patient's muscular strength and efficiency. Except for shorter periods of time one gram per kilo of body weight is a fair average to maintain and it makes no difference in what form the patient receives it. In place of a highly specialized diet which is burdensome and inconvenient to the patient it is better to insist upon a policy of all round moderation in eating, with due regard for body weight and general sense of well-being.

Unfortunately we possess no specific form of medication that is capable of exercising therapeutic control over high blood pressure. Without exception all such have proved failures. Our endeavor during the sthenic stages of this disorder must concern itself with correction or control of conditions so far as we can discover them that have brought about the symptom. During the asthenic stage or period of decompensation our attention shall be engaged with the support of a failing heart or inadequate kidneys or endeavoring to make tolerable the existence of the victim of hemiplegia or angina pectoris. Into the details of these measures I shall not enter.

It is well to ask ourselves what we are able to accomplish in this class of patients: What are the possibilities of cure or control? In the early stages cures are not uncommon. I have repeatedly seen the high pressure return to normal and remain there after appropriate correction of the patient's habits and environment. Elimination of infections will sometimes bring to normal an elevated pressure. Correction of bad habits of eating, excess of tobacco, constipation and digestive disturbances may accomplish much. In so-called essential hypertension with a sound heart and kidneys we are dealing with a functional derangement

which with diligence in seeking the cause we may be able to relieve. After heart, kidneys or cerebral circuit have suffered damage the problem is no longer one of correction or cure but of compromise.

THE VALUE OF BLOOD CHEMISTRY IN CLINICAL DIAGNOSIS.*

BY BURTON C. FORD, B. A., M. D.,

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The subject of blood chemistry in its modern development is almost wholly American, although Bang in Sweden was very active and developed a very comprehensive system of blood analysis, and Feigl in Germany has written voluminously on the biochemistry of blood.

Blood analysis has yielded especially helpful information in diabetes, nephritis, and gout, while the data obtained in renal diabetes, infantile diarrheal acidosis, in eclampsia, malignancy, and various urologic conditions, has given us a new point of view regarding many of these disorders.

Dr. Henry J. John,[1] of the Cleveland Clinic, has done some very convincing work with regard to diabetes and the pre-diabetic stage. He maintains that there has been a definite, recognizable pre-diabetic stage in every person who develops diabetes, which, being recognized, admits of the prevention of diabetes. The presence of fasting blood sugar to the amount of 125 mg. to 100 c.c. and of a post-absorption blood sugar of 145 mg. to 100 c.c. of blood calls for further investigation. Children, in families in which there is a diabetic history, or a case of sudden or late obesity, should be investigated by means of the glucose tolerance test.

Blood sugar examination is the only rational basis on which to diagnose or treat diabetes mellitus. In normal individuals the blood sugar curve, following the administration of 100 gms. of glucose, rises rapidly to its highest point in one-half hour and the decline is rapid. A case is considered normal if the blood sugar curve returns to normal within three hours. In diabetes this rise of the tolerance curve is slow, taking from two to three hours and the decline taking from four to nine hours.

The absolute diagnosis of renal diabetes rests entirely upon the blood chemistry examination. Here, the blood sugar is within normal limits but the glucosuria is due to a lowered kidney threshold.

The question of the normal blood sugar as given from 90 to 120 mgs. per 100 c.c. of blood is a disputed factor, but in most uncomplicated cases figures above 150 mg. of glucose in the blood will show sugar in the urine. However, some normal individuals may excrete sugar at 150 mg. or less. Therefore, the patient's blood sugar should approach normal limits in order that normal carbohydrate metabolism may be resumed. It has been observed that when the diabetes is mild or quiescent, the point at which the kidneys eliminate sugar is stationary, but when the disease becomes progressive, the threshold tends to rise. A rising threshold in the face of dietary treatment should be regarded as a serious prognostic sign. In these cases, the CO_2 determination of Van Slyke should be made to check up the alkaline reserve and to detect an impending acidosis. Normally blood plasma has the capacity of combining with 65 per cent or more of CO_2 which can be thrown into it in the form of alveolar air. When the percentage falls below 50 per cent we must consider the individual in a state of acidosis.

The tests for acetone and diacetic acid in the urine in diabetes and other conditions are valuable diagnostically, but they still tell little concerning the severity of the acidosis. To secure this information it is necessary to have an analysis of the blood CO_2. In the treatment of diabetes, especially by the Allen method, acidosis is more to be feared than hyperglycemia and should be more carefully followed.

[2]Acidosis in cases of severe diarrhea, not of the ileocolitic type, is not due to the presence of acetone bodies, but apparently due to deficient excretion of acid phosphates by the kidneys, as is the case in nephritis. In cases of diarrhea without ileocolitis, there is only a moderate increase in acetone bodies, while with ileocolitis the amount of acetone bodies is very large.

[3]Gettler and Lindeman found that the alkaline reserve in pernicious anemia was very low because the oxidizing power of the body is reduced.

There are certain conditions that must be differentiated from diabetes when the blood sugar is high: (1) Nephritis, here the non-protein nitrogen and its constituents will be high; (2) Hyperthyroidism, these patients have a decreased carbohydrate tolerance as in a diabetic, but will clear

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up under rest. The basal metabolism will be high; (3) Dysfunctions of the hypophysis, the clinical manifestations will give the clue here.

In cases of diabetic neuritis the blood sugar remains high for some time and can be brought to normal only by slow and active measures. In seven cases reported by K. Grube[4] the sugar excretion was fairly well controlled but there was a marked hyperglycemia.

Prevost and Dumas in 1823, were the first to demonstrate an increase of urea in the blood, and since that time the non-protein nitrogen constituents of the blood have been the subject of repeated investigations and has given considerable aid in diagnosis and prognosis of the various nephropathies and diseases of the genito-urinary system.

The indigo carmine test and the phlorizin test of the urine have all had their vogue, but have been practically abandoned because of the meager amount of information one could obtain from them. The phenolsulphonapthalein test of Rowntree and Geraghty is probably the only dye test that possesses virtue in determining the kidney function for the moment, but it does not indicate the condition of the kidneys when objectionable constituents are retained for a long period of time in the body, so that the test fails to show accurately metabolic changes in the system so far as non-protein nitrogen retention is concerned. [5]At present, in a normal state of health, the important functional activities of the kidneys are: (1) nitrogenous secretion, (2) their ability to prevent acidosis by the elimination of acids and retention of alkalies, and (3) water and solid excretion. Kidney embarrassment in function is evidenced by impairment in excretion of urea, so that the blood retention of urea is brought about. In the very severe types of nephritis, creatinine is withheld and the blood shows an excess of this substance. Therefore, it is quite possible to estimate the degree of organic change in the kidneys by the quantitative retention of these nitrogenous substances in the blood when in some instances the urinary changes are exceedingly scant, and at times entirely absent. The estimation of variations in water and total solids excreted (estimated by specific gravity) is easily accomplished by the renal test meal of Mosenthal and Lewis. These various means are such indices of true nephritic impairment that in the cases which show symptomatology of mixed cardiac and renal disease, one can differentiate between a true renal condition and a secondary one, as in the latter class of cases almost uniform negative results are obtained in retention tests.

Before proceeding to a discussion of the specific pathologic variations in the composition of the blood, it may be well to indicate in graphic form the range of changes usually encountered in several common metabolic disorders. It is difficult to draw an arbitrary line indicating where normal findings end and pathologic findings begin, but it is believed safe, when blood is taken after a fourteen hour test (in the morning before breakfast) to regard a urea nitrogen above 25 mg. as approaching the pathologic.

The blood in gout is characterized by its rather high content of uric acid, figures of 4 to 10 mg. It should be borne in mind, however, that early cases of interstitial nephritis disclose similar figures, although here there is generally a tendency for urea retention as well. Since a purine-free diet lowers the blood uric acid, treated gout cases may occasionally be encountered where the uric acid is only slightly elevated. The estimation of the blood uric acid is a valuable aid to diagnosis of gout, but only when considered in connection with the clinical symptoms and other laboratory findings.

There appears to be little doubt that early cases of chronic nephritis are accompanied by an appreciable rise in the blood uric acid, although a rise in the blood urea can probably be taken as a safer sign of impaired kidney function. It is certainly true that the urea nitrogen falls within very narrow limits for perfectly normal individuals. Figures over 25 mg. on the usual restricted diet of the hospital would suggest impaired kidney function. Creatinin appears to be more readily eliminated than either uric acid or urea, and it is not, as a rule, until the blood urea has doubled, or more than doubled the normal, that there is a very appreciable increase in this purely endogenous waste product derived apparently from muscle metabolism. The normal for the creatinine of the blood is approximately 1 to 2 mg. per 100 c.c. and figures over 3.5 mg. can be viewed with grave concern, while figures above 5 mg. are almost invariably indicative of an early fatal termination. At this point, I should like to present a case of chronic glomerular nephritis which was admitted to the hospital for a surgical operation and on routine blood examination revealed a

creatinine of 4.8 mg., one week later it went to 8.32 mg., the next week it was 8.33 mg., and on dismissal, one month after operation, was 5.2 mg. per 100 c.c. of blood. This patient was 18 years old and her nephritis dated back thirteen years. She was operated on under local anaesthesia. The operation was for the resection of the head of the radius. She made an uneventful recovery and is alive today, nine months after operation.

The inability to properly excrete the waste products of nitrogenous metabolism is only one of the difficulties which arises as the result of renal disease. As is well known, in parenchymatous nephritis, or nephrosis, the edema is probably due, in part at least, to the lowered permeability of the kidneys for chlorides with their consequent retention. It is natural, therefore, to expect that the excretion of other salts should be deficient, although we have only recently come to appreciate the effect of the retention of phosphates. Normally, acid phosphates provide one of the most important mechanisms of eliminating acid. When the phosphate excretion is impaired, bringing about an increase in the acid phosphates of the blood, an acidosis results, which may be quite as severe as that resulting from diabetes, judging from the CO_2 combining power of the blood. Chase and Meyers have concluded that all fatal cases of chronic nephritis with marked nitrogen retention suffer from acidosis, and this may be so severe as to be the real cause of death. It may also be noted that cases of acute nephritis occasionally show marked acidosis. When it is relieved by the administration of alkali or otherwise, a simultaneous clinical improvement takes place.

In parenchymatous nephritis, the findings are quite different. Here the nitrogen retention is comparatively small, although, as noted above, the estimation of the blood may disclose a retention of chlorides. The figures for urea nitrogen seldom exceed 30 mg. except in terminal stages of the disease, and generally fall between that figure and 15 mg.

It is of interest in this connection to note that many advanced cases of malignancy, possibly as the result of the toxemia, give the chemical blood picture of moderately severe nephritis, also that many cases of pneumonia show definite evidence of nitrogen retention, while in the terminal stages of the disease a severe acidosis quite generally develops.

It is apparent from the observations of Losee and Van Slyke that eclampsia is accompanied neither by a marked nitrogen retention nor a severe acidosis. Although these observations are essentially negative, they are very helpful in that they show that this toxemia is not a "uremia." Very recently Killian in a series of severe eclampsias found that the non-protein nitrogen is generally definitely, though not markedly increased, while the urea is more often subnormal than increased. The uric acid, however, is very high and there is a mild hyperglycemia. In some of the severe cases the acidosis is quite marked.

These facts regarding the nitrogen retention and acidosis of nephritis are worthy of consideration from a surgical as well as from a medical point of view, especially when one considers that a very appreciable fall in the CO_2-combining power of the blood may result from the use of a general anaesthesia, especially chloroform and ether. When the acidosis is already pronounced, it is easy to imagine what may happen from the additional fall of 10 to 15 volumes per cent, such a fall being not uncommon in individuals without acidosis as the result of ether anaesthesia.

A recent experiment conducted by Drs. M. E. Rose[9] (recently reported), C. W. Brunkow and myself on the surgical patients of Dr. R. E. Farr at St. Mary's Hospital, Minneapolis, and by Dr. S. R. Maxeiner at the Minneapolis General Hospital, including in all seventy-one patients, tends to prove that novocain produces a decrease in the alkali reserve of the blood which is less frequent and less marked than that following the general anesthetics. The alkali reserve of the patients was determined before and after operation and the change, if any, was noted. The operations included such major procedures as herniotomy, hysterectomy, nephrectomy, cholecystectomy, thyroidectomy, appendectomy, etc. In these cases the average fall was 1.9 volumes per cent. As the number of cases studied is relatively small, our conclusions must be guarded. However, a comparison of these results with those obtained by other investigators[10] working with ether would seem to indicate that the decrease in the alkali reserve of the blood following novocain anesthesia is less frequent and less marked than that following general anesthesia.

The blood urea has been found to be a valuable preoperative prognostic test in cases of prostatic obstruction. Cases showing urea nitrogen figures under 20 mg. may be regarded as good operative

risks so far as the kidneys are concerned. When the urea nitrogen figures are found between 25 and 30 mg., the patient should be operated on with considerable caution, preferably after a preliminary period of treatment directed to relieve the nitrogen retention. Urea nitrogen figures of 30 mg. are very good evidence of renal involvement, and therefore afford a rather poor operative risk.

Sufficient has been said to indicate the practical value of the chemical analysis of blood in pathological conditions, especially those of constitutional nature, although many others might be mentioned.

We all encounter many conditions where a knowledge of the chemical blood findings is of greatest importance in differential diagnosis. One of these has already been mentioned, viz., renal diabetes. Without a knowledge of the blood sugar content it is scarcely possible to suitably differentiate this condition from diabetes. The estimation of the blood uric acid is often of considerable assistance in the differential diagnosis of gout and arthritis, the uric acid being essentially normal in the latter. Cases are sometimes encountered which clinically might be diagnosed as cases of essential hypertonia without the knowledge of the chemical blood findings, but these disclose a high uric acid, definite urea retention and figures for creatinine somewhat higher than one would ordinarily expect from the urea, a picture which appears fairly characteristic of nephritis of the arteriosclerotic type. In essential hypertonia one may find a fairly marked increase in the uric acid, but obviously no urea or creatinine retention. Cases of apoplexy present some of the clinical symptoms of uremia, but negative data on the urea and creatinine of the blood definitely exclude "uremia" as the cause of these symptoms. Such cases should not be passed over, however, without a knowledge of the CO_2-combining power, as cases of acute nephritis are sometimes encountered without nitrogen retention but with pronounced acidosis.

SUMMARY.

1. Blood sugar examination is the only rational basis on which to diagnose or treat diabetes mellitus.

2. The absolute diagnosis of renal diabetes rests entirely upon the blood chemistry examination.

3. The CO_2-combining power of the blood gives valuable aid in determining the severity of an acidosis.

4. Blood chemistry is a valuable aid preoperatively in genito-urinary surgery.

5. The non-protein nitrogen concentrations of the blood in the individual case of chronic nephritis gives us absolute facts of the case which measure the progress of the disease in a more or less quantitative fashion, thereby making it possible to establish a logical and systematic form of treatment.

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OBSERVATIONS ON FRACTURES OF THE MANDIBLE.

Thirty-one cases of fracture of the mandible are analyzed by Robert H. Ivy, Philadelphia (*Journal A. M. A.*, July 22, 1922). There were nineteen cases of single fracture and twelve of double, making a total of forty-three fractures in all. The location was: mental foramen region, sixteen, or 37.2 per cent; angle, eleven, or 25.6 per cent; incisor region, eight, or 18.6 per cent; molar region, six, or 14 per cent; neck of condyle, two, or 4.6 per cent. Thirty-two fractures were in the vicinity of the teeth. In seven cases, or 22.5 per cent, external drainage was required on account of suppuration. The same number developed sequestrums requiring removal either intra-orally or extra-orally.

INTRA-OCULAR MANIFESTATIONS IN THE VARIOUS BRAIN CONDITIONS ASSOCIATED WITH BRAIN PRESSURE AND THE MODUS OPERANDI BY WHICH THESE MANIFESTATIONS ARE BROUGHT ABOUT.*

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This subject, it appears to me, is of timely interest, not only to the ophthalmologist, but also to the internist, the neurologist, and especially must it be of great interest to the surgeon, who is much concerned in this question. The early and prompt recognition of intra-cranial pressure in its various forms is of paramount importance and any assistance that can be given to facilitate its recognition must be of value.

As an oculist, I feel that I am expected to present this subject-matter from the "eye-man's" standpoint, and while the question involves every domain of medicine, I shall try to demonstrate the *modus operandi* in the production of disc disturbances in brain pressure, supporting this demonstration by a parallel condition that is found in cases of glaucoma of the eye. To do this satisfactorily, we must get at the essence as to what constitutes the cause or causes which lead on to brain pressure.

Apparently, this whole subject-matter has heretofore presented many confusing or contradictory explanations. For instance: Why do some tumors of the brain seemingly produce brain pressure and others not? If brain pressure be present, why is this sometimes conveyed to distant parts and at other times not? Why do the peripheral evidences of brain pressure, such as chocked disc and the pressure found in the spinal canal gradually disappear, while brain pressure may even become greater? These and other peculiar contradictions can find a very clear and satisfactory explanation, which I propose to present in the course of my remarks.

In order to visualize and more effectively demonstrate this whole question, I would like to present to your attention the various mechanical facts underlying the production and progress of a condition known as *Glaucoma* of the eye, which appears to me to represent an exact analogy or counterpart and are in every way similar to those we encounter in the brain under conditions of brain pressure.

The aqueous humor of the eye, on the one hand, and the cerebrospinal fluid of the brain on the other, have a common function, each in its respective field. In the eye, the aqueous humor is constantly but very slowly secreted from the anterior ciliary processes, and after performing its functions of protection and nutrition, is again returned into the general circulation by way of the anterior angle of filtration (ligamentum pectinatum), the canal of Schlemm, and the various other venous connections located at this point. In the meantime, fresh aqueous humor is secreted in order to maintain a proper physiological condition and tension of the eye-ball. The aqueous humor of the eye very similar to cerebrospinal fluid is a very bland non-irritating fluid, amounting practically to normal saline solution, and in its passage from its secretory organs through the eye and out into the general circulation, after its absorption at the filtration angle, does not excite irritation nor find difficulty in its normal passage, so that the eye never becomes overfilled. If, however, for any reason the aqueous humor should contain irritating substances, toxins or poisons of any irritating nature, or on account of anatomic anomalies, its return absorption could or would not take place, and the back-pressure thus produced by overfilling of the eye-ball, would greatly stimulate the production of aqueous formation, with the result that the eye pressure would soon become much greater than normal, and the vicious circle thus produced, the process of greater secretion and lesser elimination, would soon result in the most terrific ocular tension, great ocular pain and all the other evidences of glaucoma of the eye. If the obstruction to the aqueous in its return flow is sufficiently continued, a rupture of the eye-ball becomes inevitable, unless nature finds other means of a decompression. In childhood there is often found a condition of infantile glaucoma, being induced by an excess of aqueous secretion, and owing to an anatomic defect at the ligamentum pectinatum, the filtration angle is unable to carry off the fluid with sufficient rapidity, the tension of the eye becomes greater and greater which would go to actual rupture, if it were not for the fact that the sclerotic coat, being yielding in childhood, will dilate and allow the eye to assume

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greatly increased dimensions, and thus we get the buphthalmos or ox-eye, which becomes at least three or four times as large as the normal eye. After the dilatation has gone on far enough, the thinning of the outer coats of the eye will allow liquid to transfuse and we have a typical decompression of the eye-ball, by enlargement, being typical of the hydrocephalic head in its formation, progress and culmination, as I shall show. In the adult, if the factors for the production of glaucoma supervene, the tension also rises until a natural decompression takes place, and this is practically always at the lamina cribrosa, at a point where the optic nerve enters the eye-ball, which also represents the point of least resistance of the eye-ball, and the lamina cribrosa, together with the optic nerve, is literally crushed and pushed outwards sufficiently to give a decompressing vent for the pent-up fluid in the eye-ball. It will have been observed that the pressures spoken of are hydrostatic in nature, and every area of equal dimensions in the eye are subjected to identically the same amount of pressure. In cases where tumors develop in the interior of the eye-ball, we do not get intra-ocular tension unless those tumors interfere with the proper circulation of the aqueous fluids in the eye-ball. A tumor will displace and cause to be absorbed the vitreous humor sooner than invite intra-ocular tension, or even penetrate the walls of the eye by gradual absorption yet with but very little tension in the eye. This fact must be borne in mind, as we shall find the same facts to obtain in brain pressure. Brain pressure, like eye pressure, is hydrostatic in nature and is but very rarely if ever produced by a tumor per se, but, as pointed out in glaucoma, is due to a lack of elimination of the cerebrospinal fluid, either by obstruction, by non-absorption, by excessive secretion, or by the added secretion of serous fluids as are found in meningitis or after severe brain injuries and hemorrhage. In health, the cerebrospinal fluid is constantly but slowly secreted from the choroid plexus and the venous plexuses found in all the ventricles, and passes on until it reaches the subarachnoidal spaces, where, after performing its functions of protection and nutrition, is again returned to the general circulation, being absorbed into the various venous channels lying within the subarachnoid spaces, while fresh cerebrospinal fluid is secreted. These fluids, like those in the eye, are non-irritating in health, act as a governor in relation to the tension, and in health maintain a normal physiological pressure. The lateral ventricles secrete their quota of fluid, which passes into the foramen of Monroe on either side, then forward to the foramen communis anterior through which the fluid passes into the third ventricle. Some fluid is added by the third ventricle, and all of the fluid then passes through the Aqueduct of Sylvius into the fourth ventricle. Here some more fluid is added, when all the accumulated fluid passes through the foramen of Magendie and Lushka, which establish an opening through the pia-materal walls and opens a gateway into the subarachnoidal spaces, where the chief functions of the fluids are found. It will be recognized at once that the above process is identical with the process of fluid circulation in the eye. As long as the various foramina remain patent, and as long as absorption in the subarachnoid spaces is normal, together with a normal secretion in the ventricles, brain pressure does not occur even though there be a brain tumor present. There may, however, be brain pressure present from what is known as external hydrocephalous due to meningitis or great irritation of the meninges from toxins and the like. Such tension, however, unless very severe, is only of temporary importance. But let some obstruction occur in the various foramina spoken of, by pressure of whatsoever nature or by direct growth, then brain pressure will supervene and become manifest throughout the subarachnoid spaces and ventricles, which will all be under the identical amount of pressure, area for area. The obstruction to the free circulation of the cerebrospinal fluids will become a tremendous stimulant to the greater production of more cerebrospinal fluid, so that the same vicious circle is here established as we found in the eye under similar conditions. The more pressure, the more fluid; the more fluid, the more pressure. It will be observed that there may be at least two kinds of brain pressure, each manifesting similar peripheral effects. The internal hydrocephalic brain pressure and the external hydrocephalic brain pressure. These two may exist independently of each other or they may, which I believe is more usual, act jointly, at least in the more developed stages of brain pressure, since they may initiate the vicious circle spoken of, after which all the causes for pressure become greater and all the reliefs of pressure become less.

Brain pressure under circumstances of a general obstructive hydrocephalous becomes incredibly

great, and no wonder that in early life, like the buphthalmos of glaucoma, the skull expands and keeps on expanding until there is produced the enormous head of the hydrocephalic youth, and until a point of drainage is reached.

In the adult, in spite of enormous pressure, the skull does not expand, but the brain tissue is literally crushed. Dr. Miloslavich, head of the department of pathology at Marquette University, assures me that he has observed cases where brain substance was pushed through the dura and at many points causing absorption and deep indentations of the inner table of the skull. Such pressure must amount to many pounds to the square inch and will shortly lead to disintegration of the brain and death, unless relief can be found.

This pressure, like that of the glaucomatous eye, being hydrostatic in character, finds its way to every contained surface or space. It is for this reason that the intra-ocular manifestations of brain pressure are very distinctive and give us the first and most valuable information as observed by the ophthalmoscope.

As a general rule, the most direct and immediate indications we have to determine intra-cranial pressure is the evidence which comes to us through the intra-vaginal spaces of the optic nerve.

Embryologically, the eyes are but protrusions forwards from the brain; the optic nerve remaining enveloped by the same coverings that cover the brain itself, hence, the intra-vaginal spaces of the optic nerve, up to the eye-ball, are a direct continuation of the intra-cranial spaces, hence, any increase of intra-cranial contents, especially of a fluid or semi-fluid form, will make itself manifest in the vaginal spaces of the optic nerve by a similar increase of pressure. It is this pressure which shortly produces evidences that can readily be seen in the fundus of the eyes at, and surrounding the optic papillae, or lamina cribrosa which is pressed forward.

The optic disk, as we see it in health, appears slightly pink or reddish, with margins clearly and sharply defined and lying on the same plane with the general fundus of the eye. The central artery of the retina emerges near the center of the disk and subdivides into superior and inferior branches, while the veins of the retina, slightly larger in size, enter the nerve head also near the center of the disk, which latter represents the entrance of the optic nerve into the eye-ball at the lamina cribrosa. Both artery and vein pass along the center of the optic nerve for about one-half inch, more or less, then leave the nerve, passing through the intra-vaginal spaces of the optic nerve, to join their main stem, or the ophthalmic artery and vein, respectively. While still within the vaginal spaces of the optic nerve, the various pressures that may obtain in the brain and hence also in the vaginal spaces, will have a decided effect on the circulation of the disk and the retina as well, and therefore we get not only the evidence on the disk of pressure, such as tortuosity and enlargement of the veins, edema and exudate, but the vessels concerned and subject to the pressure will also clearly show the grade of obstruction due to pressure, unless other obstructive causes are present to prevent the pressure to exert itself.

Much experimental work has more recently been done in connection with this subject to prove or to disprove that intra-cranial pressure was directly responsible for the pressure manifested in the occlusion of fundal circulation. There are various striking abnormalities found at times in the disk resembling choked disk, but these are all of an inflammatory nature and due to toxic conditions, such as albuminuric retinitis, neuritis or papillitis. The disk of pressure is not inflamed but becomes edematous to the various degrees, depending upon the length of time the pressure lasts. When the pressure subsides, the edema also leaves.

Dr. Sharp, of the New York Neurological Surgical Clinic, recently made the following experiment. Through an occipital opening in the skull in a series of six dogs, he closed the Aqueduct of Sylvius by means of a capsule filled with cotton. At the end of six hours, three of the dogs showed a beginning edema of the optic disk, which gradually increased, while three dogs developed this edema only after eight hours; but all of the dogs developed a very characteristic papilledema of the disk, and in all of the dogs, this increased up to what is known as choked disk, meaning a crowding forwards of the lamina cribrosa and an edema resulting from the interference of circulation with a considerable elevation of the surface of the disks above the plane of the fundus. The veins of the fundus became much increased in size, showed great tortuosity due to overfilling and stasis, and became very weak, while the arteries of the retina became irregularly blurred and gradually exudate interferes much with their clear visibility in parts. A decompression done on some of these dogs, grad-

ually restored the fundal circulation to more normal conditions.

It was shown that an internal hydrocephalous, and in a lesser degree an external hydrocephalous, invariably and almost immediately produced the eye symptoms so characteristic in various forms of brain defects, which we will review briefly tonight.

It is clearly proven that the mechanical effect of brain pressure, through and by virtue of its excessive fluids, is directly responsible for these edemas and papilledemas of the disk and fundus, and as stated before, the terms papillitis, retinitis and the various itis, cannot enter into this matter, as they all have special manifestations and are, as a rule, toxic in origin. The mechanical pressure which alone produces a true choked disk is hydrostatic in character and is brought to bear on the lymphatic circulation as well as the blood circulation in the vaginal spaces, and in order that a choked disk occur, it must always be preceded by a series of blurrings of the details of the disk, as well as by dilatation of the veins with a degree of tortuosity. If it be possible that intra-cranial pressure alone can cause inflammation, then the term "papillitis" may apply, but if such be the case it is practically a toxic condition and inflammatory exudates will manifest themselves freely. To distinguish this from true choked disk, a cell count of the spinal fluid may be made and the matter cleared up.

The most important conditions that will initiate intra-cranial pressure, and which especially interest us, are brain tumors, brain abscesses, hydrocephalous produced by exceptional causes, selected cases of spastic paralysis due to intra-cranial hemorrhage at birth, and lastly, intra-cranial hemorrhage and cerebral edema following brain injuries, and toxic conditions in which the cerebrospinal fluids are not absorbed promptly, under which heading would also come forms of meningitis and the so-called wet brain.

Brain tumor.—In this condition, papilledema may be a gradual development, culminating in the later stages in choked disk by the gradual interference of proper circulation or absorption of intra-cranial fluids. Choked disk in brain tumors is practically always followed by a secondary atrophy of the optic nerve and total blindness results. Therefore, if symptoms of intra-cranial pressure appear, such as headaches, slow pulse, and the like, the ophthalmoscope should be freely used at short intervals to watch for signs of blurring of the disk and enlarged veins. The nasal and upper edges of the disk are the first to show decided blurring in advancing pressure, and our watchful eye should especially observe the upper and inner margins of the disk, besides the changes in the circulation of the fundus. Certain frontal lobe tumors may, by direct pressure upon the nerve, cause primary atrophy of the optic nerve, without brain pressure. While it may not be possible to be sure of brain tumor at all times, but if the general symptomatology is in line, brain pressure is certain and provision should be made so that relief can be given. We cannot afford to await choked disk, for if we do, we may have greater certitude, but we will also have a blind patient on hand. Small pontine angle tumors may not show papilledema at all or but very late, for obvious reasons. Subtontorial tumors practically always cause a very definite internal hydrocephalous by blocking the free circulation between the various ventricles, while small and slowly growing tumors in the central or more hidden portions of the cerebrum may not show this tendency to cause hydrocephalous, hence, not liable to cause papilledema to any great degree.

Brain abscesses and substitution of cerebral tissue and purulent detrítus, like glioma, which infiltrates, does not cause brain pressure, unless, by infection, the ventricles become blocked, or a serous meningitis may develop, inviting much liquid and practically an external hydrocephalous. Ventricular blocking is very frequent in subtentorial and cerebellar abscesses, but it is rare for a spheno-temporal abscess to cause fundal changes, even though the abscess be large.

Hydrocephalous.—Internal type, due to blocking of the cerebrospinal fluids in the ventricles, causing ventricular dilatation and great intra-cranial pressure. Also, the external type of hydrocephalous, causing partial blockage of fluid from the general cerebrospinal canal. In babies, where hydrocephalous develops from various causes, nature points the way to decompression, but reverses the process by allowing the head to expand rather than allow the fluid to leak out. The similarity to infantile glaucoma, in this regard, is apparent.

Cerebral spastic paralysis—due to intra-cranial hemorrhage at birth (about 75 per cent of these cases of spastic paralysis are due to this cause, as reported by surgeons). The cerebral pressure induced in these cases is great and always produces

fundal changes. Chief causes of this paralysis are (1) lack of development of cortex, (2) meningitis or meningo-encephalitis, and (3) hemorrhage.

Intra-cranial hemorrhage with severe injuries and cerebral edema in very acute or recent cases, rarely give a real choked disk, because the time for adaptation to this sudden and increased pressure is too limited, death overtaking these cases before a choked disk will have time to develop. In rupture of the meningeal artery and a large hemorrhage choked disk has full time to develop and does develop, unless the pressure is relieved by suitable means, when the disk will soon return to normal or near normal.

Choked disk or papilledema of the eyes is a condition that comes on gradually, and experiments show that it does not take place short of about three hours, and therefore, repeated examinations of the fundus must be made at short intervals to discover the gradual development of papilledema.

Various forms of meningitis and forms of apoplexy may and often do give rise to edema of the disk, showing that brain pressure is present. Not the least benefit that we can gain from the examination of the fundus of the eyes is the NEGATIVE fundus, which assures us that brain pressure is not present to any degree, unless plastic exudates have closed off the free inter-communication of the subarachnoid spaces with the vaginal spaces of the optic nerve.

Brain pressure, if continued for some time, shows a tendency to invite exudates to form at the various intercommunicating points and shortly a fibrosis may be produced which effectively locks off distant communicating relations. It is thus, that a spinal puncture in the early part of advancing brain pressure may indicate much pressure, while at a later date, this pressure, while still present in the cerebral cavity, cannot be elicited by spinal puncture, the subarachnoid connections having been closed through a fibrosis. This same is true concerning the subarachnoid spaces in the vaginal sheets of the optic nerve, so that a choked disk may gradually disappear while the brain pressure remains constant or even becomes greater. Unless one is on guard, mistakes may be made. There is no question that the proper relief for all these conditions is a properly selected decompression, and if necessary, the ventricles may be drained by some form of seton for a time at least. Many cases of cerebral pressure, when uncomplicated with permanent obstructions to absorption and circulations, can be effectively cured by a proper decompression, and the internal circulation of the cerebrospinal fluid may be restored to normal. If possible, manometric tests of cerebrospinal fluid should be taken from time to time, and the actual pressure noted.

The various forms and methods of decompression that are now practiced, ought to depend largely upon the character of the obstruction causing the brain pressure. For all Subtentorial obstructions where the cisterna at the base is overfilled with cerebrospinal fluid, the most direct and successful decompression is through the subarachnoidal spaces in the spinal canal, through which, by repeated spinal punctures and the gradual withdrawal of fluid (about 20 c.c. at a time), the tension may be gradually lowered, and in case of spinal block, the cisterna may be directly drained, if done very cautiously. In these operations, the patient must be in the recumbent position. In the non-absorptive forms, such as occur above the tentorium, "wet brain" and hemorhages, the subtemporal decompression is probably best. The cure and relief of glaucoma of the eyes is based on a similar mechanical relief.

It stands to reason that only such cases can be permanently cured in which the cause that initiated the excessive cerebrospinal fluid can be eliminated.

In conclusion, I would state that most of these cases as a result of the condition present manifest some change in the pupils of the eyes. Either the pupil may be below normal in size, reacting only slightly or, if pressure is very great, paralysis of the third nerve center may allow the pupil to become very large, with little or no reaction. Before making a fundal examination, the pupillary finding should be fully taken, following which, some mydriatic, such as euphthalmine, should be used in order to gain a more satisfactory view of the fundus and disk and be able to more correctly interpret the findings. With a restless patient lying in bed, and with a small pupil, it becomes very difficult to make a satisfactory fundal examination, unless a mydriatic is used. Of course, there are exceptions to this, when the mydriatic is unnecessary. In order, however, not to interfere with the pupillary findings, the mydriatic should only be used after the pupillary record has been fully obtained.

LOUIS PASTEUR, FOUNDER OF MODERN CHEMISTRY.

BY PROF. NAND SINGH (INDIA).

FROM THE DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY, MARQUETTE UNIVERSITY, MILWAUKEE, WISCONSIN.

Upon the occasion of the centennial of the birth of this immortal scientist, we will discuss and evaluate his contributions to Science, most especially those centering about chemistry.

A survey of *Pasteur's* scientific pursuits will indicate a three fold division of his life, corresponding to his three most prominent achievements: *Pasteur* the Chemist, *Pasteur* the Biologist and *Pasteur* the Immuno-therapeutist.

The principal object of this paper is to relate *Pasteur's* contributions to Chemistry and to point out their significance from the standpoint of modern research.

While attending the laboratories of *Dumas, Pasteur* studied crystallography under the direction of *Delafosse.*

Even at the early age of 26 *Pasteur's* fame had spread far and wide because of his momentous discoveries along chemical and chemico-physical lines. His earliest as well as his most important research work focused on the chemical constitution of tartaric and racemic acids. He successfully split up optically inactive racemic-tartaric acid, into hitherto unknown compounds which were chemically the same but optically and crystallographically different. He named one, common dextro rotary tartaric acid, in that it turned the plane of polarized light to the right and the other, laevo rotary tartaric acid, in that it turned the plane of polarized light to the left.

In addition to their opposed deflections of light another characteristic to their respective identities was based upon their different crystallographical determinations. The differences existing in these two forms of tartaric acid exhibited in their behavior toward polarized light was also evident in their crystallographical formations, their crystalline formations being different. Their images were similar but not congruent. *Pasteur* correctly attributed this phenomenon to the fact that the atoms of the molecule of each isomeric tartaric acid assumed a distinctly different asymmetric arrangement. Herein lay *Pasteur's* first important achievement, in that he brought to light a method for precisely analyzing the apparently identical salts of tartaric acids and to isolate the laevo rotary tartaric acid crystallographically as well as by means of polarization.

His interesting researches on these substances proved to be of utmost importance, since they established the relations existing between optical activity and crystalline form, and thus have thrown considerable light upon the architecture of molecules.

Pasteur's theory of the asymmetric hemihedrism of the crystals of tartaric acid became the foundation of modern Physical Chemistry as well as of Stereochemistry—the Chemistry which treats of the position of the atoms in a molecule—whose founder he is rightfully called. For *Pasteur* was undoubtedly the first to emphasize, to demonstrate practically and to stress the importance of the space arrangement of the individual atoms in the molecule.

In another series of experiments *Pasteur* studied the behavior of synthetic organic compounds in solution toward polarized light and established their optical activity. He noticed that naturally formed bodies or compounds resulting from a physiological process such as solutions of albumin, malic acid, fibrin, tartaric acid, sucrose, etc., were optically active. This phenomenon lead him to infer that some relation existed between the optical activity and the biological processes and he decided to establish this hypothesis in fact. He succeeded in doing so by introducing moulds such as Penicillium glaucum with inorganic nutrient salts into a tartaric acid solution. In this way the solution was split up into the optically active tartaric acids while the dextro rotary tartaric acid was assimilated as food by the growing mould. Thus it was *Pasteur* who was the first to utilize microorganisms to solve chemical problems.

Pasteur's discoveries regarding the nitrogenous metabolism of yeast (1860) were of the greatest importance. In its determination he used a special reagent consisting of water, sugar, ammonium tartrate and ash constituents. After boiling this solution and later mixing it with germs present in the air, a typical fermentation took place. The growing microorganisms took from the sugar, carbon; from ammonium, nitrogen; and from ash, mineral salts. Thus it was proved that the ferments were living organisms which brought definite chemical action, and that each particular fer-

mentation process was the work of particular and distinct microorganisms.

Pasteur's researches in the domain of fermentation were extensive but time did not permit him to complete them all before being hurried into other fields of scientific interest and practical worth.

He recognized, however, as a fermentation process, the phenomena known as nitrification, or the conversion of ammonia into nitric acid salts, which occurs extensively in all fertile soils. Far from being regarded as simple chemical oxidation this process is now recognized as resulting from bacterial activity, and the particular microorganisms responsible, after long eluding isolation, have since been found and described. As a result of these researches, the fact was brought to light that in these nitrifying bacteria we have living cells capable of flourishing and multiplying in the entire absence of organic matter. It has also been shown that certain green plants obtain their nitrogen nutriment through certain bacteria infesting their roots which produce nodular excrescencies. In cases where the bacteria have not been present, these root nodules do not make their appearance and the assimilation of free nitrogen ceases.

In ammoniacal fermentation of urine, *Pasteur* was the first to discern microorganisms and was consequently the first to point out the cause of the process. This discovery also was at that time of momentous importance in medical circles.

Pasteur studied the various kinds of fermentation with the greatest thoroughness, e. g., butyric

acid, lactic acid, alcoholic fermentation, from the chemical as well as biological viewpoint, and was able to point out various specific organisms and conditions necessary for each individual process.

Pasteur furthermore conducted research work on acetic acid (1862) and beer fermentations (Etudes sur la biere 1876) giving particular attention to the diseases of beer and wine which at the time were seriously damaging these industries in France. He emphasized the fact that the diseases of the beer were due to impurities existing in the cultures of the yeast used and on account of various kinds of bacteria. *E. C. Hansen* denied this assertion and proved that the real cause lay in the variability of the yeasts used.

Intimately related to the theory of fermentation was the theory of "spontaneous generation" (Generatic aequivoca) which was defended by a great number of prominent scientists e. g., *Helmholtz, Schwann, Schroeder,* etc. It was *Pasteur* who subsequently furnished conclusive arguments for the incorrectness and inapplicability of this hypothesis by means of simple, yet ingeneous, experiments. *Pasteur* also confirmed the fact that yeast consisted of low organisms which were self propagating. It is interesting to recall the opposition of *Liebig* to this Vitalistic theory. *Liebig* did not dispute the organized nature of yeast, but would not acknowledge that the latter itself gave rise to fermentation through its life processes. He assumed that the presence in yeast of an albuminous ferment which on the death of the former brought about the decomposition of sugar into alcohol and carbonic acid. *Pasteur* proved that this change was not simple as was represented in the mere splitting up of sugar into alcohol and carbonic acid, but there were other important substances produced, such as, succinic acid and glycerine.

The last thirty years of his life were especially devoted to the study of immunity and immunotherapeutics in combatting and preventing various infectious diseases, which he continued for the rest of his very active life.

On the 28th of September, 1895, a Great Epoch of Scientific Research was brought to a close in the passing of Louis Pasteur to the Great Eternal Beyond.

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OUR JOURNAL

QUARTZ LIGHT THERAPY IN SKIN DISEASES.

Quartz light, E. Lawrence Oliver, Boston (*Journal A. M. A.*, Aug. 19, 1922), says, is of value especially in those ulcers dependent on poor peripheral circulation. Of these, the most frequent to be encountered are varicose ulcers of the leg, and in many of these quartz light may be a great help by producing an active hyperemia, which seems to be a great stimulus to epithelial proliferation. A few exposures of from one to three minutes (at weekly intervals) at a distance of 10 inches from the source of light, an air-cooled lamp being used, are often sufficient to clean up a foul ulcer and start proliferation of epithelium at the borders. In traumatic ulcers also, healing may be greatly hastened. When skin grafts are indicated, and the local conditions are unfavorable, the use of quartz light for a few weeks previous to the operation will often greatly increase the likelihood of a successful result, by promoting the local circulation. Birthmarks of the so-called port wine type often respond extremely well to the water-cooled type of quartz lamp. In cases of alopecia areata, in which bald patches have existed for months or years, the hair has grown in again after five or six treatments with quartz light. In localized patches of chronic eczema, when there is a marked thickening of the skin, the results from quartz light therapy are often remarkable; permanent cures are not uncommon. Severe cases of acne vulgaris are cometimes benefited by the stimulation of quartz light treatments with the air-cooled lamp, but the good results are usually only temporary. In selected cases of lupus vulgaris, quartz light often proves of great value; in fact, in some cases it seems to be curative. In lupus erythematosus, ultraviolet light treatment is rarely the method of choice.

TREATMENT OF CYSTOCELE.

The positions of the urethra, bladder, uterus and rectum are maintained independently by the pelvic fascia. The prolapse of one without any disturbance of the other is of common occurrence; while general prolapse results when there is an extensive disturbance of the function of the fascia. During the child-bearing period, even though there is considerable prolapse, J. Craig Nell, San Francisco (*Journal A. M. A.*, Aug. 26, 1922), claims the radical cystocele operation, with posterior repair and abdominal suspension of the uterus, has proved most satisfactory; and it does not interfere with subsequent pregnancies. Following the child-bearing period, the uterus becomes a liability, rather than an asset. In complete prolapse, we must consider the support of the bladder and the support of the uterus. The conservation of a part or the whole of the uterus for menstruation only is rarely, if ever, justified. The theory that the life of the ovary depends on menstrual function is far from being established, and from Neel's experience does not deserve serious consideration. Therefore, granted that the uterus has served its function, its removal reduces the condition to a more simple problem, the support of the bladder. Neel describes the technic he has employed for the removal of the uterus through the vagina.

THE WISCONSIN MEDICAL JOURNAL
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EDITORIALS

THE STATE MEDICAL SOCIETY IN 1923.

BY F. GREGORY CONNELL, M. D., PRESIDENT.

Two functions of the State Medical Society are:

1. To extend educational and other advantages to the individual physician: by scientific meetings, publications, mutual cooperation and good fellowship.

2. To protect the health of the general public by spreading facts concerning health and hygiene and by aiding legislation beneficial to the physical well being of the public.

The State Medical Society in 1923 will differ from that of the past years in that its driving force, its secretary, Rock Sleyster, will not be acting in his usual capacity.

I take this occasion to speak in behalf of the officers and members to express our appreciation for the very competent and effective manner in which he has acted as secretary for all these years. We realize that his ceaseless efforts to make our State Society a real effective working organization have served as an incentive to us all, and stimulated each member of the society to more energetic participation in its activities.

We regret that other duties made it necessary for him to relinquish the office of secretary, but we are assured of his counsel and cooperation which will be of very great assistance to the new officers.

Our new secretary, Mr. J. G. Crownhart, has a big pair of shoes to fill but we feel sure of his best efforts and I would bespeak the earnest cooperation of each individual member, during this period of transition, which will effectively assure a successful year.

The State Medical Society in 1923 will differ from previous years in that it has been decided to emphasize the second of the above mentioned functions, i. e., the protection of the health of the general public.

It was chiefly with this line of activity in mind that a full time non-medical executive secretary was engaged.

The promotion of general health and welfare by protection of the public from uneducated healers and illadvised legislation may be attempted in two ways:

1. By education of the public, emphasizing health and hygienic facts on each and every possible occasion, and in this way creating in the public, a desire to be protected from charlatans and wrong rules and regulations pertaining to the general welfare.

2. The use of all possible efforts to help the passage of desirable and to defeat undesirable health measures, in the state legislature.

There is a minority of the profession who consider it the duty of the medical man to prolong life and relieve suffering of those who ask for his advice or ministration: and not, that it is his duty to

force, or attempt to force, his methods upon an unwilling public.

But it has been decided by the house of Delegates and by the Council that it is wise at this time to influence legislation as do those whose ideals are not so altrustic as are our own.

New medical legislation aiming at the establishment of, at least, some educational requirements in certain basic or fundamental branches of Knowledge by all those who presume to "practice the healing art," is before the present session of the legislature and its passage is to be aided in every possible manner by the State Medical Society.

This Basic Science Bill states that, "The Sciences essential to the practice of healing are anatomy, chemistry, diagnosis, hygiene, sanitation, pathology and physiology and are called the basic sciences."

It also provides for a "State Board of Examiners in the Basic Sciences," no member of which shall be engaged in the practice of healing.

Objections, if any, to such educational requirements in those who presume to trifle with one's greatest asset, health, must call for a great deal of explanation on the part of the objector.

The present situation relative to uneducated healers is not different from that of 150 years ago, referred to in an editorial in the last number of the Wisconsin Medical Journal, entitled, "The Quack we have always with us." The reason for this is very complex, of course, but a chief factor is the well recognized fact that a large proportion of cases of sickness, roughly estimated at one third, recover spontaneously and the Quack is one who claims credit for these cures. If one is wise in choosing his cases his recovery rate may be very high. This percentage is always with us and it seems rather hopeless to attempt to legislate against it.

No attempt is to be made in the proposed legislation to require any educational fundamental requirements for the mental or spiritual healers, leaving a loophole that may be bothersome.

But the matter of legislation will soon be settled one way or the other while other activities of the State Medical Society, in the interest of good health, must be exercised constantly in season and out, regardless of any legislative session. It will probably be along this line of activity that our new full time executive secretary will find his greatest usefulness. It must be a slow, well outlined campaign of constant reiteration of medical hygienic facts, aiming to counteract the flood of misinformation that is now being spread abroad among the people by self interested parties aided, primarily, by a press, that defies description.

A most hopeful sign is the department in the Chicago Tribune edited by W. A. Evans: this is pioneer work that is being imitated and must be still further duplicated.

It is encouraging to note the Publication of "Hygiae," a medical Journal for non-medical readers by the Journal of the American Medical Association.

The lesson to be driven home, by any one having the general welfare at heart, is the necessity of correct diagnosis before the institution of treatment.

If the people are once impressed with the necessity of diagnosis they in turn will insist upon it, and we will then see a ray of sunshine through the dark clouds of hygienic ignorance.

The public must agree with our opinion that they need to be protected from the uneducated man who presumes to cure disease before anything will be accomplished in this matter.

We cannot expect to do away with the Quack entirely. So long as the irregular *promises* to cure where the honest physician cannot do so, he will have a following, but the plan of popular education is the only way to really diminish the number of followers.

Another new activity that the reinvigorated society might attempt will be to improve the morale, the methods, the ethical standing of the individual members of the profession itself.

While we are so active in looking out for the public weal, by attempting to eliminate the irregulars, it might be wise for us to consider that a Quack is one who promises to do that which he cannot do, and takes credit for doing that which he does not do. Such a definition, if correct, does not put all of the Quacks outside of the regular medical profession. A little more attention paid by the society to more or less glaring variations from the ethical code might help in keeping the practice of medicine, a profession, and discourage the tendency toward commercialism which is not negligible.

OUR NEW SECRETARY.

WISCONSIN has followed the lead of Ohio and Virginia in employing a full time lay executive secretary. Our membership is referred to the discussion on the subject as published in the transactions of the House of Delegates in the January issue of the JOURNAL. It is a far-reaching step in advance, and will mean much in developing the Society to render a greater service to its members and to the people of Wisconsin.

The Council at its annual meeting elected Mr. J. G. Crownhart of Madison to fill the position. Mr. Crownhart comes well qualified for the work. He is a son of Justice Crownhart of the Supreme Court, a graduate of the University of Wisconsin, and has been engaged in important newspaper work for the past three years. He will maintain an office at 558 Jefferson Street, Milwaukee, to which all communications relative to organization matters should be addressed. In addition to his duties as Secretary he will, under direction of the Council, be the Business Manager of the Association and Managing Editor of the JOURNAL.

In giving up the work to Mr. Crownhart after nearly ten years of service, your former Secretary wishes to take this opportunity of thanking the membership for the loyal support and cooperation it has at all times given—a support which has placed our State Society at the head of the list as one of the best organized in the United States. The work has become a part of his life, and it is with a distinct feeling of loss and sadness that he is relinquishing it to younger and abler hands. He realizes how much better it might have been carried on, but it has assumed proportions demanding full-time service, and this he was unable to give. He bespeaks for the new Secretary the same ready response and cheerful cooperation he has always received.

REFERENDUM ON MEDICAL DEFENSE.

MEMBERS will recall that the 1922 House of Delegates authorized a referendum on the question of continuing medical defense. A letter of explanation with a return postal card was mailed to all members of the Society in December. To date eight hundred and eighty-one votes have been received. Of this number four hundred and fifty-three favored continuing the defense of our members in malpractice suits, three hundred and ninety-eight opposed, and thirty were noncommittal. The Council at its annual meeting February first decided to continue the defense until the result of the vote can be brought to the House of Delegates next September. It will be carried as an optional feature, only those members who pay for it sharing in its protection. All members so protected when threatened with trouble should immediately communicate the facts to Dr. Arthur J. Patek, Secretary of the Committee, Goldsmith Building, Milwaukee.

"DANNY" HOPKINSON.

March 13, 1876—February 1, 1923.

ONE who asked no odds but won his own way by indomitable courage and vision to the esteem of his fellow men. Such was Dr. Daniel Hopkinson, "who entered a medical college on a shoestring" twenty-six years ago.

His eminent professional record needs no commentary. The record of his winning fight will stand as an example to younger men. He had a vision of a life of service. Early lack of riches and later physical infirmities could not swerve him from that path. His life was his chosen profession and he recognized no obstacle as impossible to meet.

He studied nights and worked days to enter college to later graduate as a leader. When his infirmities would no longer permit of his doing a general practice he turned to pathology and achieved success. When confined to a wheel chair he cheerfully and actively pursued his work, ever aided by his devoted wife.

His life is a history of creations of opportunity. His death, in the midst of service, is mourned by his brothers in the medical fraternity.

A CONSIDERATION OF ACUTE AURAL DISEASE IN CHILDREN.

Examination of the ear in children, states A. SPENCER KAUFMAN, Philadelphia (*Journal A. M. A.*, July 15, 1922), should be made routinely, whether or not there are local evidences of involvement. The early recognition and proper treatment of acute suppurative otitis media will prevent the majority of cases of mastoid necrosis. Early surgical treatment of mastoid necrosis is the only means of preventing chronic otorrhea or the intracranial complications.

THE JOURNAL CLINIC
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THE BUREAU OF POST GRADUATE MEDICAL INSTRUCTION
UNIVERSITY EXTENSION DIVISION
The University of Wisconsin.

PSEUDO-EXOPHTHALMIC GOITER. REPORT OF A CASE.

BY ARNOLD S. JACKSON,
SECTION ON SURGERY, JACKSON CLINIC,
MADISON, WIS.

Case 32586. Mr. O. H., aged 33 years, was referred to the Jackson Clinic by his family physician, Dr. Ferguson, of Elroy, Wisconsin, for investigation of symptoms which had led to a diagnosis of exophthalmic goiter and recommendation of operation. The patient had been receiving compensation from the Bureau of War Risk Insurance, but because it was believed he suffered from a disease not attributable to injuries sustained during the war, his allowance had been materially reduced. Dr. Ferguson considered the diagnosis of exophthalmic goiter inconclusive and consequently desired further study of the case.

On examination, the patient complained chiefly of weakness, nervousness, and a tired feeling. In 1918, he had suffered a fracture of the skull due to flying shrapnel while he was in service in France. He remained semiconscious for one month, but no paralysis or gross physical disability resulted. His present trouble, however, apparently dated from this injury. On more fully recovering his mental faculties he noticed that he was nervous, had nightmares, and was easily frightened. He continued to be nervous, noticed a tremor of the fingers, occasional spells of dyspnea, palpitation and rapid heart. All these symptoms, however, were accentuated during the past year, especially the past three months. The patient's strength had steadily decreased for a year, and he had lost 10 pounds in the past six months. He suffered considerably with insomnia and headache. Exophthalmos had been present since the injury, but the eyes had acquired a fixed stare and had become much more prominent in the past three months. The patient did not perspire freely, or give a history of ravenous appetite as is common to patients with exophthalmic goiter. He did not vomit, or suffer with diarrhea; nor has he had any crisis or noticed a goiter.

Physical examination of the chest, heart, abdomen, and extremities was negative. The blood pressure was 110 systolic and 78 diastolic. Analysis of the blood and urine was negative. The basal metabolic rate, estimated according to Tissot's method, was —2 per cent. The skin was dry. Symmetrical fullness of the thyroid gland, 1 on a scale of 1, 2, 3, 4, was noted. Bruit, thrill, and quadriceps loss were not demonstrated, but a slight fine tremor was present.

The findings on ophthalmic examination were most interesting and unusual. Marked apparent exophthalmos, as shown in the picture (Fig. 1), was noted; but careful examination revealed the absence of true exophthalmos, in which the sclera appears equally above and below the iris. In this patient the sclera appeared only above the iris, due to a spastic contraction of the upper lids. Examination of the skull revealed a healed, decompressed fracture of the right parietotemporal area.

A diagnosis of shell shock, pseudo-exophthalmic goiter, was made, and increased compensation, rest, and sanitarium treatment were recommended.

Fig. 1. Pseudo-exophthalmos in which the sclera appears only above the iris. In true exophthalmos, the sclera appears equally above and below the iris.

DISCUSSION.

This case emphasizes the importance of a carefully taken history. In spite of the apparent simulation of exophthalmic goiter and a long history, this patient had not passed through a crisis with vomiting and diarrhea. In true exophthalmic goiter a crisis usually occurs within nine months of onset. A patient presenting true exophthalmos of as marked a degree as in this case would be expected to suffer far greater loss of strength and weight. The absence of any loss in the power of the quadriceps, one of the most valuable diagnostic signs of exophthalmic goiter, argued against a diagnosis of this disease.

Another contradictory feature of this case was

the absence of a ravenous appetite and increased perspiration. Patients with exophthalmic goiter usually give a history of a voracious appetite at some time in the course of the disease, due to excessive metabolism.

In about 80 per cent of cases of exophthalmic goiter thrills and bruits occur within two years. The normal blood pressure alone strongly argued against exophthalmic goiter; in this disease the pulse pressure is increased with a low diastolic and slightly increased systolic reading.

The basal metabolic rate, if obtained by absolutely scientific methods and correctly interpreted, is practically infallible as a diagnostic index in cases of goiter. If from —10 to +10 per cent is considered normal, the reading in this patient was within normal limits.

Dr. Ferguson is to be congratulated on his persistence in refusing to allow a thyroidectomy to be performed on this patient.

CASE OF PELLAGRA IN WISCONSIN.

BY H. E. MARSH,

SECTION ON MEDICINE, JACKSON CLINIC,

MADISON, WIS.

The case of pellagra reported herewith is of unusual interest in that it occurred in an individual who had always lived in Wisconsin. Since pellagra is of dietary origin, and not infectious, it may occur in the north as well as in the south. It is most commonly met in institutions where the diet is inadequate and among the poorer classes when, from necessity, the diet is limited. In the large northern cities cases are occasionally observed even among the wealthy patients and in such cases the disease is the result of a finicky appetite with low protein intake.

REPORT OF CASE.

Mrs. B., a white woman, aged forty-two years, came to the Jackson Clinic August 21, 1922. One year previous she had developed attacks of epigastric pain and vomiting lasting a day at a time. These attacks continued and eight months later an exploratory operation was performed on account of an umbilical hernia and the possibility of gall stones. The examination of the gallbladder was negative. The umbilical hernia was repaired. After operation the attacks continued for about two months, when the pain decreased and vomiting became less frequent. Three weeks before, the patient developed severe diarrhea and the backs of her hands became brownish red. She lost 25 pounds in weight and was extremely weak. She had always been of a cheerful disposition, but had recently become rather depressed and melancholy. She lost her appetite and complained of considerable distress after meals.

On examination the patient appeared to be fairly well nourished but very weak. The lips and tongue were bright red, and the lips were covered with small scales. The heart was very rapid, the sounds were clear, and there were no murmurs. There was an adenoma of the right lobe of the thyroid 3 by 2 cm. in diameter. The dorsum of the fingers and hands to a point 2.5 cm. below the metacarpophalangeal joints was brownish red with a fairly definite line of demarcation (Fig. 1). Several

Fig. 1. Discoloration of dorsum of fingers and part of hand in woman with pellagra; several large bullae appear on the fingers.

large bullae were noted on the discolored areas. The blood pressure was 122 systolic and 86 diastolic; the pulse rate was 136. Analysis of a twelve-hour specimen of urine showed quantity 700 c.c., specific gravity 1.016, reaction acid, no sugar, albumin 3, and pus cells 4, on a scale of 1 to 4. The hemoglobin was 80 per cent; erythrocytes numbered 5,200,000, leucocytes 25,000, polynuclears 55 per cent, lymphocytes 42 per cent, eosinophils 1 per cent, transitionals 1 per cent, and large normoblasts 1 per cent. The basal metabolic rate was +4 per cent. Renal functional test with phenolsulphonephthalein showed 45 per cent return of the dye in two hours.

The patient was sent to the hospital and placed on a high protein diet. On account of her weakened condition a gastric analysis was not made, but as patients with pellagra usually have achylia, she was given 30 drops of dilute hydrochloric acid with her meals and drachm doses of subcarbonate of bismuth four times

daily. During the first week in the hospital the diarrhea ceased, distress after meals became less marked, and vomiting occurred but rarely. The color of the hands changed from reddish brown to dark brown, the skin became dry and scaled off, leaving a dirty brown color streaked with normal skin. The melancholia and depression gradually disappeared. The patient was so anxious to return home that she left the hospital against advice. It was later learned that the patient died about a month after leaving the hospital.

DISCUSSION.

It was very difficult to obtain a definite dietary history but for several months previous to operation the patient had lived on a diet consisting of egg-nogs. Although such a diet is high in protein, it is probable that she did not ingest sufficient protein to meet her body requirements.

UNIVERSITY OF WISCONSIN MEDICAL SOCIETY.

TUESDAY, DECEMBER 5, 1922.

PROGRAM.

BY DEAN LEWIS,

PROF. OF SURGERY, RUSH MEDICAL COLLEGE.

CHICAGO, ILL.

SURGERY OF THE DUCTLESS GLAND.

BY DEAN LEWIS, M. D.,

In his introduction Doctor Lewis stated that he would confine his remarks to the question of hypophyseal disease rather than discuss the thyroid and indefinite questions associated with the other glands of internal secretion. He stated that hypophyseal conditions were interesting: first, in that definite cellular changes were related to definite clinical syndromes; secondly, from the relation of disease of the hypophysis to diabetes insipidus, and third, because of the relation of this structure to pregnancy and menstruation. Furthermore, it is of practical importance to know whether the secretion of the pars intermedia is taken into the blood stream or cerebrospinal fluid; likewise whether or not it contains a pressor substance. In acromegaly it was formerly thought that the condition was due to a sarcoma of the gland until certain of the characteristic cells which are found normally in the anterior lobe of the pituitary body were found in the tumor associated with acromegaly.

Dr. Lewis next discussed the histology of the gland, stating that there were three types of cells: 1. Eosinophile. 2. Basophile. 3. Chromophobe (without definite granules).

He next discussed the question of the independence of function of the various types of cells and their relationship to the activity of secretion, stating that acromegaly was dependent upon a hyperplasia of the eosinophilic cells of the anterior lobe and even in the absence of tumor eosinophilic hyperplasia will be accompanied by the syndrome known as acromegaly. This hyperplasia may, however, go on to the condition of eosinophilic adenoma. Dystrophia adiposa genitalis accompanies over-growth of the cells of the chromophobe type. Dr. Lewis discussed in some detail the clinical and pathologic differences in these conditions.

The infundibular lobe contains in a large percentage of cases mouth epithelium. Tumors arising from these rests of mouth epithelium are apt to be cystic. Interpedunucular cysts are attended by polyuria in 15 per cent of cases and early blindness in a large group of cases. Dr. Lewis next took up the question of the posterior lobe, stating that the thin epithelial layer which was active in internal secretion over-lays the anterior portion of the lower surface. In the hog this is easily dissected from the nervous portions of the posterior lobe and found to contain the pressor substance. Diabetes insipidus has a definite relation to the pars intermedia. However, any injury about the infundibulum is attended by polyuria and it is interesting to note that never has this condition been permanently produced, the longest duration of polyuria after this injury being four months or somewhat more. In two clinical cases lumbar puncture has controlled polyuria. Hemianopsia occurs early in interpedunucular cysts. In Fröhlich's syndrome the sex characteristics are lost and with chromophobic adenoma of the anterior lobe, there is a tendency to erosion of the sella toward the pharynx. Interpedunucular cysts show erosion of the anterior and posterior clinoid processes. Neighborhood tumors and those in the posterior fossa causing hydrocephalus, cause confusion in diagnosis, particularly if a marked internal hydrocephalus develops.

Amenorrhea may be an early symptom of tumor and it is interesting in this relation to note that temporary acromegaly may at times be seen in pregnancy as may also hemianopsia. The cells of pregnancy have been studied extensively.

With slight reference to the difficulties of surgery of this gland, and a series of slides, Doctor Lewis completed his discussion of the subject.

THE UNIVERSITY OF WISCONSIN MEDICAL SOCIETY.

NOVEMBER 10, 1922.

CULTURES OF LYMPHOID TISSUE AND ARTIFICIAL PRODUCTION OF MYELOID CELLS IN VITRO.

BY PROFESSOR MAXIMOW,

UNIVERSITY OF CHICAGO.

CHICAGO, ILL.

Professor Maximow in introducing the subject stated that in experimental method cultures should record the growth of the morphologic unit.

1. There was movement of the cells of the explanted tissues in various directions, certain cells growing outward and then the several types becoming conspicuous.

2. Away from the body these cells are free from the influence of other tissues and there are seen prospective potencies of development not normally noted—the genetic relationship between various types thereby becoming clear.

3. There is an advantage in the cultivation of explanted tissues, in that the reaction of cells to the application of physical and chemical agents, is more readily studied.

For this study, Professor Maximow used for growth of lymphoid tissue the mesentery lymph nodes of the rabbit, and as a nutrient medium coagulated blood plasma diluted with water; and to this he added tissue juice—the last named stimulating growth, the first two being inadequate. Dr. Maximow stated that embryonic tissue juice might prove better and so far as his researches had gone, bone marrow juice had proven the best growth inciting medium. It has been proven by various investigations that embryonic tissue grows freely; in this study adult tissue was used and it was stated that indefinite growth might be anticipated. Vital dyes have been used to determine the state of the tissues under cultivation.

Normal lymphoid tissue has a reticulum, whose fibers are covered with a layer of protoplasm; occasional cells are noted along these fibers. Free lymphocytes may so crowd the intervening space between the reticular fibers as to obscure the reticular cells. One characteristic of the latter cell is their ability to store vital dyes; the lymphocytes remain colorless.

In granulation tissue in inflamed lymphnodes are noted large amoeboid cells called macrophages which store vital dye and are derived from the reticular cells. Next are noted the lymphocytes and also the typical fibroblasts—these are derived from the lymphoid tissue and not from the capsule, as has been proven by culture methods.

Explanted tissue in from twelve (12) to sixteen (16) hours on suitable medium shows migration of the cells toward the periphery, the lymphocytes moving first through an amoeboid movement. Reticular cells are transformed as in inflammation to macrophages and may be easily recognized, even on migration, through their many pigmented granules. The fibroblasts appear later after the tissue becomes looser—as though teased out; these cells arise from the reticulum. Fibroblasts are an unusual development since reticulum normally may give rise only to reticular cells.

If too large pieces of lymphoid tissue are used in culture, the center becomes necrotic and only small peripheral zone remains alive. With escape of lymphocytes and macrophages from the parent tissue, radial projections of fibroblasts are noted and these undergo a progressive widening. In three to four days all the lymphocytes which have migrated are dead; those in the tissue may remain alive and even undergo further development. The same is true of macrophages.

Transplantation should be made every five or six days. The fate of capillaries in these tissues is interesting in that some persist even in later stages. After 20 days, sprouting may be noted in remaining vessels and others may show development of fibroblasts from endothelial cells.

Fibroblasts are specific and highly developed cells and may show mitotic division. After the eighteenth hour, evidences of growth occur by division and multiplication of these cells. In the latter stages collagenous fibers arise from the fibrillar intercellular substances. These cells are resistant and highly differentiated and do not undergo further change.

Reticular cells are very easily differentiated from fibroblasts, in that many on demand mobilize and act as phagocytes. In some cultures many divide mitotically and at times macrophages arising from this tissue may overlie the whole culture.

About a foreign body they may be transformed to giant cells. In the tissue reticular cells may subdivide to some of the larger epitheliod cells, which Dr. Maximow claims were mistermed.

An interesting practical application of this study was cited by Dr. Maximow in the necessity for a foreign substance to alter the normal growth of lymphocytes which within the lymph node never change, but in inflammatory processes they may be changed to macrophages. The condition is noted on the addition of abnormal stimulus to growth in these cultures and it is still a question as to whether, in the adult, new lymphoid cells may arise from fixed cells. Cultures are the only convincing evidence up to the present time. Under some special stimulus mitosis may occur in the reticular cells—the nucleus becoming sharply outlined, chromatin content increased, protoplasm growing blue and although a few greenish granules may persist, the appearance is typically that of a large lymphocyte.

Discussing the question of myeloid cell growth, Dr. Maximow stated that there were two theories of origin—dualistic and the unitarian theory. In the former two distinct primary cells were considered; in the latter a single source was determined for both lymphoblasts and myeloblasts. Histologically, these two cells are identical regardless of source. Histological studies are, therefore, unavailing. It was undertaken by culture methods, therefore, to clear this point. Bone marrow juice was used with Ringer's solution and added to the plasma. Lymphoid tissue taken from the cortex was explanted on this medium and after four days typical myeloid cells were found in the tissue. The early cells lost some of the basophilic quality, chromatin became scarcer, and the cells as a whole paler. In the next stage granules appeared in the protoplasm; then again there was noted division of cells to the typical myelocytes but at no time was the typical polymorphonuclear leucocytes reproduced. Dr. Maximow held that this was due to their inability to develop the proper medium. Neutrophilic myelocytes were definitely reproduced and megakaryocytes were produced; red cells never appeared. However, it is known that the lymph nodes of leucaemias, even in the presence of marked myeloid metaplasmias, are free from erythoblasts.

Dr. Maximow then demonstrated a series of slides and specimens.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

TYPHOID FEVER AND OTHER WATER-BORNE DISEASES.

BY DR. FRANK F. BOWMAN.

The science and art of medicine is not restricted to the diagnosis and cure of disease in its gross forms; it includes also a knowledge of how disease comes to be, of its earliest beginnings and of its prevention. It is, in fact, the science and art of health, of how we may learn to live a healthy life at the top of our capacity of body and mind, avoiding or removing external or internal conditions unfavorable to such a standard, able to work to the highest power, able to resist to the fullest, growing in strength and efficiency.

The human body is a finely adjusted physiological instrument, which must not be wasted, much less destroyed, by ignorant or willful misuse. For, apart from moral considerations, it must not be forgotten that a workingman's capital is, as a rule, his health and capacity to perform a day's work.

Therefore, as the problems concern the future as well as the present, so also they have regard to that interpretation of preventive medicine, the aim and purpose of which is the removal of the occasion of disease and physical inefficiency, combined with the husbanding of the physical resources of the individual, in such a way and to such a degree that he can exert his full powers unhampered at home or in the workshop, over a reasonably long life, and with benefit and satisfaction to himself and all concerned.

Water-borne diseases, under conditions of modern life, can be almost completely prevented, and whether or not this is done depends greatly upon the attitude of the community.

From the standpoint of prevention, these diseases are extremely important. Every person who has typhoid fever has recently swallowed typhoid germs discharged from the body through the bowels and kidneys of a person harboring such dis-

ease germs. The liability to typhoid attacks is increased by a reduced resistance of the individual and is also dependent upon the virulence of the bacilli and number of the same ingested. The greater the number of bacilli swallowed the greater is the danger of infection.

It is not the purpose of this paper to dwell upon the clinical aspects of water-borne diseases, but to discuss the epidemiological and public health aspects resulting from these conditions.

The control of communicable diseases depends, including, of course, the diseases under discussion, first, upon prompt and accurate diagnosis; second, upon learning the source and avenue of infection in each case or group of cases; and third, upon blocking each avenue of infection as it becomes known. We cannot and do not wish to prevent people from drinking water or abridge free intercourse of people. We do desire, however, to prevent contact with infected individuals. We cannot inspect each water supply, except at great expenditure of time and labor. Even then our results will likely be inconclusive. It is seldom possible to find the infecting organism in water, so much so that it is seldom attempted. We must adopt a method of investigation which is practical, rapid and efficient. Such a method is primarily statistical. It substitutes definite information for impressions.

We gather our evidence, have our witnesses, estimate their value, develop one lead or another, retain or drop it as our judgment dictates and act accordingly. We appeal to the laboratory, the engineer and the physician for evidence to establish our case. Every health officer should have available certain information about his community as a whole; maps, case-records and such other data as pertain to his locality. It furnishes him with his first line of defense. With this at hand he stands ready to force the fight into the enemies' territory. The foundation of efficient epidemiologic study is, of course, prompt notification of the presence of the disease, or of suspected cases to health authorities.

Every physician, attendant, parent, householder or other person having knowledge of a known or suspected case of typhoid fever, the probable source of infection, if ascertainable, must be indicated, and such other facts should be given as will be of assistance to the health office in handling the case. Telephone reports should precede, if possible, written communications.

We have relied too much, in the past, upon the physician who only knows of disease as he comes in contact with it. The successful health officer is the one who uses every means to acquaint the public of the health forecast of his community and foresees breakers ahead. Many diseases are seasonal and this may be said to be particularly true of water-borne diseases. When we have secured the intelligent co-operation of the public we may rest assured of their support and it is inconceivable that they would disregard the dangers. Building upon a foundation of public opinion, we are able to conduct our epidemiological investigation in an orderly and satisfactory manner.

Investigations may be and often are carried on without the use of data and with but a fraction of the information, as one may practice medicine without a stethoscope, laboratory or other aids to diagnosis.

From a little data one may guess the source of infection. Consistent success does not attend the use of such methods. Results can only be obtained by attention to details and even then 100 per cent need not be expected.

The hope of the health officer is, or should be, to limit communicable disease, preventing spreading. He who attempts conclusions upon superficial investigation and ignores detail is bound to fail in his duty to the community, reminding me of the skit, "Many who pursue a train of thought must find their efforts vain, for many a man we see who looks as if he'd missed his train." The water-borne diseases with which we are particularly concerned are typhoid fever, dysentery and cholera. These epidemics are recognized to have certain characteristics.

1. They occur somewhat more frequently in spring, fall or winter when the water is cold and freshets are apt to wash infection from its sources and convey it rapidly to the consumer.

2. They usually have a sudden onset, the number of cases rising to a peak and then rapidly declining.

3. The pollution is usually near by, indicating the direct transmission of fresh, virulent infection.

Water supplies may be polluted by three classes of material: Vegetable and animal refuse, waste from human beings, and waste from industries.

Water contaminated from the latter source, unmixed with either of the other two sources, cannot cause infectious diseases, and can only be of danger

to human beings using it in proportion to the amount of physical or chemical action which these wastes may have on the human body.

Waters which contain vegetable or animal refuse, but do not contain human excrement, will not be the means of transmitting infections disease to human beings under ordinary circumstances; however, it is more or less uncertain whether large amounts of organic vegetable matter of vegetable or animal origin can cause disease conditions.

The most important water pollution for our consideration is when we deal with supplies contaminated with waste from human beings. It is possible to use water polluted with human excrement without contracting a communicable disease, provided the individuals furnishing the pollution are not producing disease germs, but the minute some person suffering with typhoid, or is a carrier of B. typhosus becomes a factor in the pollution we must expect trouble. The infectious individual is the factor to be contended with. Disease does not arise per se in water, but water is often the route over which disease travels.

The term "water-borne disease" is in a way misleading. As I have said, water may be the route over which disease travels, but disease germs do not originate in water. This is a very important point in disease control. The sooner we get away from bizarre ideas and stop looking for disease in places where it is not, the quicker will we appreciate that the root of epidemic disease lies in the infective individual. If we corral the first case properly, there will not be a second. The first case is always the most dangerous.

Water-borne diseases and typhoid in particular require conscientious, protracted study and vigilance. One's responsibility does not end with the close of the outbreak but the most important and careful measures must be instituted in order that history may not repeat itself. There follows in the train of these outbreaks the setting for the next. It has been estimated that three per cent of typhoid patients become carriers and these given latitude may be responsible for morbidity incident over wide areas. They, therefore, should be watched and their subsequent history followed and instructed as to their responsibility to others of the communities in which they live.

After every typhoid outbreak there is what may be termed a residual element of infection. Pollution having found its way into the soil under many conditions may persist for a year, awaiting only the necessary condition of flooding to exercise its specific pathogenic effect. It follows, then, no avenue for escape must be left open and as far as possible communities must provide water supplies which preclude the entrance of contamination, for once infection has taken place, no assurance can be had that it will not make its appearance again.

Vaccination serves its purpose and should be taken advantage of, but its protection, unfortunately, is limited. Typhoid incidence in Wisconsin has been low, but the last year or two has witnessed a marked increase and of all states we can ill afford to allow water-borne diseases to become a factor. One has but to turn in any direction, north, south, east or west, to find natural attractions. Our thousands of lakes and beauty spots furnish a natural playground, and it is up to those of us engaged in public health work to preserve these for their proper uses. Rest and play are the most vital factors in promoting health and how better can we promote normalcy than by conserving to others what nature has so abundantly bestowed upon us.

PUBLIC HEALTH NEWS ITEMS.

A health officer is not authorized to make a charge for fumigating homes following cases of communicable disease.

* * *

A permit is necessary to ship meat to packing houses outside the state. Such permits are issued by the bureau of animal industry, Union Stockyards, Chicago.

* * *

The requirements relative to the purity of water supply furnished on trains are under the control of the U. S. Public Health service. There are no state regulations as to the use of towels, combs or brushes on railroad trains. The use of the common drinking cup on railroad trains is prohibited by state law.

* * *

Schools may be closed on account of disease outbreaks upon order of the local board of health. The health officer does not have authority for such action without the approval of the board. Such closing is not recommended by the state department of health except in exceptional cases. School inspection is recommended as the proper procedure.

Dr. G. Windesheim, health commissioner of Kenosha, was reappointed to membership on the state board of health, and Dr. Lyman A. Steffen, health officer of Antigo, was appointed to the board to fill the vacancy caused by the death of his father, Dr. I. D. Steffen. These nominations by Governor Blaine are subject to confirmation by the senate.

* * *

Miss Ella F. McGovern, maternity and infant health center nurse for Rock, Walworth, Racine and Jefferson counties, resigned, effective Jan. 8.

* * *

There is a fixed penalty (a fine of from $20 to $200) for failure of any Wisconsin couple, marrying outside the state, to file with the local registrar a copy of their marriage certificate upon their return to Wisconsin to reside.

* * *

Release cultures required before a diphtheria quarantine can be lifted can be taken by the family physician upon the authorization of the local board of health, the expense to be charged to the town. Two negative cultures are required before the quarantine can be raised.

* * *

After an investigation of cases of impetigo contagioso which was refused admission by the teacher into a public school in Dane county, a deputy state health officer advised the school board that the teacher had full authority to take such action, and advised the parents to keep the children out until fully cured.

* * *

A township is required to pay reasonable charges for administering antitoxin to an indigent patient by the family physician.

* * *

Cases of chickenpox are required to be isolated in rooms away from the rest of the family. The home must be placarded. Well children in the family can attend school.

* * *

It is not the duty of an attending physician to fill out a death certificate. This duty is required of the undertaker in charge. The physician must supply the cause of death to be entered in the certificate.

* * *

Jurisdiction over appeals for the removal of railroad stockyards is vested in the railroad commission, but the state board of health is empowered to enforce the sanitation requirements at such places. Use of such stockyards for butchering is prohibited.

* * *

An indigent patient going to the Mendota hospital for treatment for a nervous disease, may obtain such treatment at a charge of $6 per week against the county.

* * *

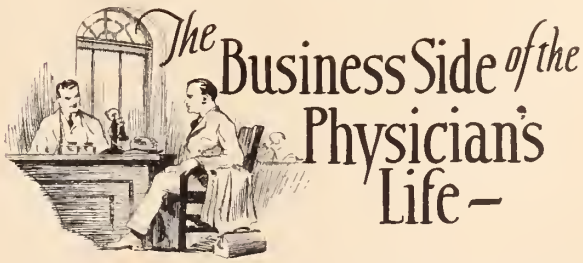
No law exists compelling nurses taking up training to be vaccinated before allowed to enter. This is left to the hospital authorities. It was said, however, that many hospitals do not accept young women for training unless they have been vaccinated or submit to vaccination when they enter.

* * *

Mortality from Typhoid in 1921. The U. S. Public Health Service reports give the mortality from typhoid fever for the year 1921, in all the registration states. Rhode Island is lowest with a rate of 2.6 per 100,000, Wisconsin is second lowest with a rate of 2.9, and Massachusetts is third, with a rate of 3.0. From there on the rates range upward to South Carolina with a rate of 26.5.

* * *

Seasonal Variations in the Diseases of the Circulatory System. The study of the seasonal variation in sickness incidence among several thousand members of some sick benefit association recorded in the public health reports shows a slight seasonal tendency in diseases of the circulatory system, a diminishing incidence being manifest in the summer and early fall of both years.



Now comes the season of the income tax return, that period of the year when men and women of income earning habits burn the midnight oil trying to figure out what will be left when the state and nation have taken their shares. Have you ever stopped to wonder how Bayer can afford to

spend a huge fortune advertising the merits of Asperin. Income tax return headaches are the answer.

Yet the income tax return has its merits. For one thing it made us a nation of bookkeepers. Countless thousands of men found out for the first time where they were at. Men had worked a life time with out any very accurate knowledge of their business footing. The income tax report made it necessary to be prepared to show on demand a record of each year's activities that would be reasonably intelligent and accurate. Scraps of paper, backs of the door and white cuffs as accounting records went into the limbo of the forgotten.

Men grumbled a good bit at first—for men, many men, resent orderly processes. But after a little experience with the keeping of accurate records they begin to find out so many things of interest about their own affairs that they liked it. Business men of any consequence always had known the advantages of "knowing where you're at"—otherwise they would never have risen to the point of consequence, but now the small business man and the professional man, and the like, discovered that a close knowledge of one's business affairs reduces losses, stops waste and increases income.

The making of the income tax return still is a thorn in the flesh. A survey made among a small number of physicians recently showed that scarcely any two of them had a like interpretation of how to make out an accurate return.

Yet any official of the Internal Revenue department will tell you that it is a simple matter. To the question put to an official recently "What should the physician keep in mind in making out his income tax return?" he made reply:

"With the physician, just as with any other business or professional man, two things are to be done: First, list all forms of income received during the year; second, deduct all the expenses incurred in transacting business."

"Expenses of transacting business including for example expenses incurred in attending medical conventions?" said we.

"Well, no," said he, "No, that is not allowed as an expense."

"But it is a business expense, certainly," we claimed.

"Up to last year it was a permissible exemption, but a recent ruling of the department forbids classing trips to conventions as a business expense," replied the official.

So that was that, and as you see there are a few catches in the regulations which make them less simple than our official friend's off-hand remark had indicated.

But in the main he was right, and no one is going to be very far out of the way who follows the course of listing all incomes on one side and all business expense on the other.

In listing income, the physician may treat his practice fees in one of two ways. Either enter only cash actually received, or enter total business transacted. If the latter is adopted, and it is the more businesslike method, a careful analysis of accounts due must be made, and exemption claimed for all accounts which you do not believe will be collectable. That's a performance by the way that will have a salutory effect in making you a much better account collector than you probably have been in the past.

Income derived from dividends on stocks, bonds, etc., appear to give many men particular trouble, as they frequently have no exact information as to whether the tax is paid at the source in whole or in part. Right here it might be well to state that all too few men have any real appreciation of the service they can get, without cost or even obligation, from any well rated investment security house on a subject of this kind. The house you purchase your bonds or other securities from can give you exact information as to method in which tax is paid on any or all securities. Furthermore, every security holder should have his lists gone over at regular intervals by authorities of this type to guard against losses and to keep his affairs in trim shape.

In considering the question of authorized exemptions, bear in mind that you are entitled to deduct all expenses accrued in the conduct of your business. For the physician these will come under the following main divisions: Cost of maintaining his office; transportation cost; cost of drugs and supplies; bad debts.

In the smaller communities, most physicians have their offices in their homes. If you own your own home, you are not permitted to charge off rent for the portion alloted to office purposes, but you are allowed to charge off depreciation and to pro rate upkeep charges on the portion of the building devoted to business purposes. If you are

renting a building in which you have both your home and your office, you are permitted to pro rate the rental, deducting that portion devoted to office space.

You are allowed to take full credit for the use of your office, horses, rigs, cost of garaging, repairs, etc., providing this equipment is used entirely for business purposes. If used partly for personal use, you must make an estimate of this and omit it from your deductions. The government authorizes you to use your own discretion in estimating this, subject to a possible revision in case of inspection by a government official.

All supplies and drugs which are used up and for which no special charge is made are subject to exemption. If handled for resale, both income received and amount expended for supplies must be listed.

Equipment and medical books are subject to depreciation at a rate to be determined by yourself. These are items which do not depreciate uniformly. A piece of equipment may last for years, or it may be obsolete in a year or so.

Finally, bad debts. Purge your books of the load of carrying accounts that you know you will never collect. Make it an annual festival. The fact that it is income earned doesn't help any if it has never been collected.

Space does not permit of a lengthy discussion of the fine points of income tax reporting, nor for the average professional man is it necessary. It is intended merely to be a corroboration of the government's attitude that the job is easy if you simply keep in mind that you "enter all you get, and you deduct all you spend for legitimate business purposes."

Do that, and you can rest easily when the "check up squad" arrives in your town.

The editor of this particular department has contended for a good long while that physicians by and large are not the imbeciles in matters relating to business that the joke books and popular tradition attempt to make them. He has had his convictions rudely jolted many times, for it must be conceded that physicians have played a conspicuous part in being taken in by the slick spoken gentry who operate the get rich schemes, and many an honest though half baked venture has attracted to it the physician who just loves a gamble. However, we have kept the faith with our own conviction that underlying this strata of medical mind that loves to be taken in on the long shot, rests a solid and substantial portion of men who practice medicine for a profession but are able to find their way about in a business way in spite of that fact.

Naturally any evidence that comes to the net to substantiate this belief is welcomed with open arms. The following letter has given particular gratification. It comes from a physician who has been in contract practice for many years in the iron country of Wisconsin. Naturally he wants to travel in these pages "incog." He is a man who has had a long, honorable, and successful record as a practitioner. He doesn't claim to be a business man. On the other hand he has recognized that a proper and decent code of professional ethics doesn't prevent a man studying and understanding ordinary sound business principles.

We believe that this letter will prove a particularly interesting one to the profession in general, and we hope that it may serve to break the ice and induce others to chronicle their experiences in these pages. When permission is given to publish, no names will be mentioned.

"The articles in the Journal on the business side of the physician's life, or lack of it, have interested me very much, and prompt me to write of my own personal experience, particularly as regards saving.

Like most men, I made no systematic effort to save until after I was married. For a while then, what saving was done was put in a few liberty bonds and some stock, but mostly in a savings deposit in a bank at 3 per cent. This was kept up until it became necessary to borrow some money.

Never having had to borrow before on my own responsibility, it was with fear and trembling that I went in to talk to my banker. I found him more than glad to loan me what I needed as I had more than enough negotiable paper to cover it. I am in industrial work and therefore have an assured income and more or less certain as to amount.

Then the fun started. I had always had more or less of a horror of being in debt, and the first thing was to get that note at the bank paid off. So, the first month, my wife and I sat down when my check came in and figured as nearly as we could what it would cost us to run the house and my business, allowing a fixed sum for incidentals and unexpected expenses. The rest of the check went

to the bank as the first payment on the note. The same thing was done the next month and the next and so on until the whole note was paid. Please don't overlook one very important point about this. We did not wait until the end of the month and pay what was left. We paid first and made ourselves get along on our estimate until the next check came in. Were we tight? We were so tight that we actually hated to buy a postage stamp at times, and as for picture shows, we just forgot there were such things. I never saved money so fast in my life.

When this obligation was all paid off, the question arose as to whether we would go back to the savings account. I thought we had seen a great light from the experience we had had. So, instead of doing this, I left my paper at the bank, borrowed some more money, signed a new note, and bought a bond which paid me the same rate of interest that I paid the bank. We kept paying what we could on the note each month as we had done before. When this was paid off, we borrowed some more and bought another security. This has been done ever since. We are never out of debt, and do not intend to be as long as I am able to earn. I prefer investing in listed securities, which are more liquid, and which pay me at least as much interest as I pay the bank. In addition to this saving, life insurance is carried, and a certain number of treasury certificates are bought each year for our two young daughters.

I consider that this method has the advantage over the regular installment plan in that there is nothing compulsory about it excepting the natural desire to meet an obligation as soon as possible. I have found that this is more than enough to make one get down and scratch, but has the advantage that one does not have to pay a certain definite sum on a certain definite date, and leaves one free to spend money for something else if necessary. One disadvantage I have found is that it tends to make one just a little too miserly if one isn't careful. The accumulating of money tends to make one want to see the accumulation grow and to lose sight of the fact that there are other things in life besides money. One way we have of combating this tendency is to get away once in a while to a medical meeting, a post graduate course, or a vacation. Then we blow ourselves more or less like lumber jacks, go home and start saving again.

What is the result? First we have a definite plan for saving and we stick to it. Next the money saved begins to earn the instant I pay it to the bank. Also, the dividends compound themselves, as no amount is too small to use as a payment on a note. The interest on the securities I bought when this scheme was started are now helping pay for those I am buying now. Another advantage is that I have come to know my banker. Instead of giving me the fishy eye he treats me like a brother, and has given me some excellent advice and taken an interest in my affairs. Instead of going to him with fear and trembling, I call him by phone to say that I want a certain sum of money and for him to have the necessary papers ready when I come in at a certain time. He has never failed me yet. It is only fair to state however, that I have played absolutely fair with him and have never asked him to loan me a cent without giving him more than ample security.

But greater than any of these is the feeling that we are getting somewhere. We have had our share of physical troubles in the family and it is a great satisfaction to have some money that we can put our hands on when these hit us.

I have made more or less mention of my wife. I was exceedingly fortunate in fooling her into thinking I was the man she wanted to marry. She is a helpmate in the truest sense of the word. Our finances are on a partnership basis, with a joint checking account and one check book. Each of us is perfectly free to buy anything we really want. All bills are paid and our bank book balanced each month. We of course kid each other, she insisting that if she wants anything she has to beat me to the bank, and I insist with equal vigor that she spends all my money.

I realize that this system would not be satisfactory for every one. Howevre, it has helped me and is passed on for what it is worth. I am not by any means independent now, but I am started in the right direction and hope to be some day. When the retired plumber and groceryman pass by going fishing, I may not join them as I do not care much for this sport, but I hope they will not see me still jogging along behind Old Dobbin. I know they won't if I keep my health for a few years more. They will see me doing what I want to do and with no worries as to how I am going to live. And when I pass on, and my safety deposit box is opened, I hope enough will be found to take care of my family in comfort."

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Trempealeau-Jackson-Buffalo	J. J. Powell, Galesville	R. L. MacCormack, Whitehall.
Vernon	J. Christenson, Westby	F. E. Morley, Viroqua.
Walworth	E. J. Fucik, Williams Bay	Neil F. Crowe, Sharon.
Washington-Ozaukee	W. H. Drissen, Port Washington	A. H. Heidner, West Bend.
Waukesha	F. C. Rogers, Oconomowoc	S. B. Ackley, Oconomowoc.
Waupaca	E. H. Jones, Weyauwega	A. M. Christofferson, Waupaca.
Winnebago	Ronald Rogers, Neenah	G. D. Greenwood, Neenah.
Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

FOND DU LAC COUNTY

Tuberculosis and other health problems and the feasibility of conducting a chest clinic were discussed at a regular monthly business meeting of the Fond du Lac County Medical Society January 10. Plans were made to hold an open meeting in the near future for the purpose of discussing with various health organizations of the county the many health problems confronting the community.

JEFFERSON COUNTY

The Annual Meeting of the Jefferson County Medical Society was held at Watertown on December 19. Following election of officers and a business meeting members of the society were entertained at a goose dinner by the Watertown doctors.

LA CROSSE COUNTY

The regular meeting of the La Crosse County Medical Society was held on January 4, 1923, at Grandview Hospital. A delicious Turkey dinner was served at 6:30 P. M. After the dinner the assembly went to the lecture room where the meeting was held.

Dr. Henke read a paper on "End Results of a Series of Appendectomies" performed at Grandview Hospital during the year 1921. He illustrated with lantern slides the Follow-Up System used at the hospital for determining end results as to the ultimate recovery and post-operative infection, and the means of eliminating same. The discussion was led by members of the staff, Drs. Jamieson, McNicholas and Anderson. Following this a general discussion of the paper ensued.

This program was the first of a series of programs to be presented by the four different Hospital Staffs of the City during the year.

Thirty-two members were present.

"The Regular February meeting of the La Crosse County Medical Society was held at the La Crosse Club Feb. 1, 1923.

The program of the evening was arranged by the La Crosse Lutheran Hospital Staff.

Dr. G. W. Lueck reported a case of fracture of the femur with presentation of the patient and X-ray illustrations.

Dr. A. Gundersen reported a series of fractures of the long bones in which reduction was accomplished by the open method using Lanes Plates. He illustrated cases with X-ray plates.

Dr. M. Sivertson read a very interesting paper on "Actinomycosis" reporting a series of cases treated at the La Crosse Lutheran Hospital. A general discussion of the paper followed.

Dr. E. S. Carlsson reported a case of splenic Cyst in which Splenectomy was performed. He presented the tumor mass for inspection, gave X-ray illustrations in the differential diagnosis, and a review of the literature."

This program was the second of a series of programs to be presented by the different Hospital Staffs of the City of La Crosse during the year.

MEDICAL SOCIETY OF MILWAUKEE COUNTY

The Medical Society of Milwaukee County held its regular meeting at the Hotel Pfister February 9, and the following program presented:

1. The Silent and Insidious Heart Lesions of the Later Years of Life. Dr. Charles Lyman Greene of Minneapolis. By request.
2. The Pain in Angina Pectoris. Dr. L. F. Jermain.

That the members of the society might have the added privilege of a more intimate contact with Dr. Greene, the program committee succeeded in inducing Marquette University, School of Medicine, to sponsor a Medical Clinic for Dr. Greene. His broad experience, not only as an author and clinician, but as late Professor and Chief of the Department of Medicine, University of Minnesota, recommends him very highly to us.

This clinic was held from 11:00 to 1:00 in the spacious waiting room of the new quarters for the Marquette Dispensary Clinic on the second floor of the university (Trinity) hospital.

MILWAUKEE ACADEMY OF MEDICINE

A joint meeting of the Neuro-Psychiatric Society of Milwaukee and the Milwaukee Academy of Medicine was held Tuesday, January 23. The program follows:

1. Presentation of Clinical Cases.
2. Differential Diagnosis, Relapses and Sequelae of Epidemic Encephalitis. Lantern Slides.
   Dr. G. W. Hall, Associate Professor of Medicine, Rush Medical College.
3. Recognition of Pernicious Anemia in Pre-Anemic Stage. Dr. T. L. Szlapka.

Discussion opened by Dr. D. W. Roberts.

PORTAGE COUNTY

Dr. F. A. Marrs was elected to the presidency of the Portage County Medical Society at a meeting held in the offices of Dr. G. W. Lawrence at Stevens Point recently.

ROCK COUNTY

The story of the development of blood transfusion and explanations of when and how it may be used to conserve human life was given before Rock County physicians at a meeting of their society, Jan. 23, at Mercy hospital, Janesville. Dr. Nelson M. Percy, an associate of Dr. A. J. Oschner of Chicago, spoke.

At a meeting of the Rock County society held the first week in January officers were elected for 1923 and a program given, a comic feature of which was the "Gland Opera"—"The Kink of Glandmania," being a burlesque of the present national move toward gland

transplantation. Dr. W. F. Peterson of the medical department of the University of Illinois gave a very interesting talk on therapy, old and new.

SAUK COUNTY

The Sauk County Medical Society held its regular bi-annual meeting February I at Baraboo. After a banquet and smoker the members listened to an instructive talk on "The Diagnosis of Certain Conditions of the Genito-Urinary Tract," by Dr. Cysk. Plans were made to have more frequent meetings of the Sauk County Society and a committee appointed to promote an extension course.

SHAWANO COUNTY

The Shawano County Medical Society held its regular quarterly meeting and election of officers at Shawano, January 10.

ASSOCIATION NEWS

ANNOUNCEMENT.

The Seventh Annual Clinical Session of the American Congress on International Medicine will be held in the amphitheatres, wards and laboratories of the various institutions concerned with medical teaching, at Philadelphia, Pa., beginning Monday, April 2nd, 1923.

Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session.

Address enquiries to the Secretary—General.

SYDNEY R. MILLER, *President.*
Baltimore, Md.

FRANK SMITHIES, *Sec'y—Gen'l.*
1002 N. Dearborn Street,
Chicago, Ill.

SPECIAL SERVICE TO AMERICAN MEDICAL ASSN. MEETINGS AT SAN FRANCISCO IN JUNE.

The Medical Tours which have proven so highly successful during the past three years to New Orleans, Boston and St. Louis, will again be operated to San Francisco this summer by the Harlan Tours, the business managers, 202 South State Street, Chicago, from whom circulars can be secured.

The "Medical Special De Luxe" will leave from Chicago via the Rock Island Lines on Saturday evening June 16th and from Minneapolis on the morning of the 17th via the Soo-Canadian Pacific. Special cars will be operated from the principal large cities in the country being attached to the "De Luxe" at Chicago and St. Paul.

The itinerary of the "De Luxe" calls for visits for sightseeing purposes at Banff, Lake Louise and Glacier in the Canadian Rockies; Victoria, B. C., Seattle and Portland, and at the last mentioned city the famous Columbian River Highway trip is to be made. One of the features this year is the automible trip from Banff to Lake Louise via Johnson Canyon, a most beautiful drive; the trip through the Canadian Rockies by daylight, the "hike" to the Great Illicillewaet Glacier, the all days' sail from Vancouver to Seattle, and the distribution of home town papers while the party is away from home are among the numerous other important attractions.

The "De Luxe" will arrive at San Francisco on Monday morning June 25th at 7:30 o'clock, and the return route may be made overland direct, or a more extensive tour, leaving San Francisco on Friday visiting The Big Tress of California, Santa Cruz, Del Monte, Salinas, Santa Barbara, Los Angeles, Pasadena, Catalina Island, Salt Lake City, the Colorado Rockies, the far-famed Royal Gorge, and Colorado Springs.

Special cars will also be operated from Chicago direct to San Francisco and another special train is scheduled to depart on Tuesday evening June 12th, following the same itinerary as the 'De Luxe" to San Francisco, with its features, for those who plan on attending the affiliated and non-affiliated organizations which are scheduled to open prior to the American Medical session.

TRI-STATE DISTRICT MEDICAL ASSOCIATION.

Freeport, Illinois, February 6, 1923.

This Association expects to run a clinic train East the last two weeks in April. At this time there will be no confliction with the States' or National meetings. It is the wish of the Association to give the busy physicians of the middle west an opportunity to attend at very little cost the large medical and surgical clinics of the East, two weeks of post-graduate work. Clinics will be arranged ahead so that there will be no loss of time. The cities to be visited are Boston, New Haven (Yale), Philadelphia, New York, Baltimore, Cleveland and a side trip to Washington, D. C. The clinics will cover the different lines of medicine and surgery and will be conducted by the leading clinitions of these medical centers.

The cost of the trip, including Pullman service the entire time and the railroad fare both ways will range from $155.00 to $174.00, according to plan chosen. We are considering very seriously of taking first-class Hotels instead of occupying Sleepers in the following clinic cities: Boston, New York, Baltimore, Philadelphia and Washington (nine nights).

The train will be run as a special having the right of way over other trains and being at our command at all times. It is necessary to limit the number of physicians to within the neighborhood of 150 in order to get accommodations in the clinics.

In regard to taking the ladies, it is probably optional.

Any other information you may wish will be gladly furnished.

Very sincerly yours,

W. B. Peck,

Managing-Director.

NEWS ITEMS AND PERSONALS

Dr. L. A. Steffen of Antigo has been appointed a member of the State Board of Health to succeed his father, the late Dr. I. D. Steffen.

Dr. Franz Goerss, who recently located in Oshkosh, pleaded not guilty in municipal court to the charge of unlawfully advertising to treat and cure certain social diseases.

Dr. W. G. Wheeler of Racine, who was found guilty on a charge of first degree manslaughter, growing out of an illegal operation, was sentenced to four years' probation under the charge of the state board of control.

Dr. W. F. Whyte of Madison and Dr. E. S. Hayes, Eau Claire, have been re-elected president and vice-president, respectively, of the state board of health.

Physicians in Wisconsin cities sent 64,768 specimens for diagnosis to the Wisconsin State Laboratory of Hygiene, Madison, during the past two years, according to figures compiled by Dr. W. D. Stovall, director of the laboratory. This is an increase of 27,787 specimens over the preceding biennium.

The new $1,400,000 hospital at the Soldiers' Home was ready to receive patients Feb. 1, according to Major Myron Snell, surgeon in charge of the home. The hospital is the largest and most modern unit of its kind. Space for 500 bed patients has been provided in the four two-story fireproof ward buildings. In addition to the main buildings there are two smaller treatment buildings with a capacity of 50 patients each, besides the administration and clinical building and large curative workshops.

Madison's medical unit which served with honor through the world war will be reorganized by its former commander, Major William F. Lorenz, who is director of the Wisconsin psychiatric institute at Mendota. The company will consist of a personnel of five physicians with the grade of captain and lieutenant, one non-medical administrative officer, and 80 enlisted men.

Rock county will not build a county tuberculosis sanitorium in 1923. The county board of supervisors decided this at the last session at Janesville, when after two hours' discussion they voted 24 to 18 against authorizing a $150,000 bond issue to cover the cost of construction of the building which in November they voted to build.

Dr. Lawrence Kolk, who has been medical officer in charge of U. S. Veterans' Hospital No. 37, since it opened in July, 1919, has turned the hospital over to Dr. Chester L. Carlisle.

Dr. Kolk is a regular officer of the Public Health Service and his return to the Public Health Service for other duty was requested by the surgeon general last fall.

Burlington's campaign for funds to establish a memorial hospital virtually is in sight of the goal—$75,000— and hundreds of donor prospects remain unsolicited.

Dr. L. A. Kron, formerly of Menominee, has located at Ladysmith.

A banquet and meeting were enjoyed in common January 19 by the members of the staff of St. Catherine's Hospital and the Kenosha Bar Association. The speaker of the evening, Chief Justice Harry Olson of Chicago, gave an interesting address on "Disease and Crime."

DEATHS.

Dr. Walter G. Law, 50, one of the most prominent physicians of Ashland and a member of the Ashland Clinic, dropped dead in his office January 25. The cause of death was cerebral hemorrhage. Dr. Law was, prior to his entry into service, located at Glidden for several years.

Dr. Johan B. Mathiesen, one of the best known doctors in the northwest, died at his home at Eau Claire, January 17, after an illness of five days of pneumonia. Dr. Mathiesen had practiced in Eau Claire since 1900.

He was a member of the Eau Claire County Medical Society, the Wisconsin State Medical Society and of the Northwestern District Medical Society of which he served as president last year. He was also a member of the American Medical Association.

Dr. S. R. Moyer, for 38 years a prominent physician of Monroe, passed away at his home January 14. Dr. Moyer has been ailing for the past four years, but until five weeks prior to his death was able to be about.

Dr. Moyer was a member of the American Medical Association, was president of the Green County Medical Association at the time of his death and was formerly health officer of the city of Monroe and also county health officer. Dr. Moyer held a chair as lecturer on diagnosis at Marquette University, Milwaukee.

Dr. Daniel W. Hopkinson is dead.

The state's leading pathologist, an honored member of the medical profession, who, though an invalid for many years, never gave up the fight against his physical infirmities, succumbed to his illness at his home, 1008 Third street, shortly after 1 o'clock.

His health, for many years, had been seriously impaired as a result of a rheumatic infection. In June, 1922, at his own order, his right leg was amputated above the knee, in an effort to better his general condition. At the time of his death Dr. Hopkinson held

the office of secretary of the Milwaukee County Medical Society.

Dr. Phillip A. Fox, prominent Milwaukee physician and a former captain of the medical corps during the world war, died January 29 at his home, 902 Downer Avenue, Milwaukee, after a brief illness from pneumonia.

Dr. Fox was a student at the University of Wisconsin and was graduated from Rush Medical College, Chicago, in 1902. Immediately after his graduation he went to the Philippine Islands, where he practiced his profession for three years. In 1905 he went to Europe, where he spent a year in the study of medicine at Berlin and Vienna.

In 1906 Dr. Fox returned to the United States and located at Milwaukee.

Dr. Fox was a member of the Milwaukee Medical Society, Milwaukee County Medical Society, Wisconsin State Medical Society, Tri-State Medical Society, and was a fellow in the American Medical Association.

Dr. James A. Lyons, for many years a prominent physician at Bear Creek, passed away very suddenly January 19, at Appleton, Wisconsin, of apoplexy.

THE THERAPEUTIC USE OF OXYGEN.

The lack of enthusiasm with which oxygen therapy has been regarded, in the opinion of Alvan L. Barach, New York (*Journal A. M. A.*, Aug. 26, 1922), seems largely due to the absence of an ideal method of administering it. The successful treatment of gas poisoning by oxygen inhalation during the war offered unmistakable evidence of the favorable results that may follow effective oxygen therapy. This led to a renewed inquiry into the subject of the therapeutic use of oxygen in clinical conditions. Recent investigation has shown that the effects of acute anoxemia may be harmful, that they exist in clinical disease, and that to a certain extent they can be prevented or overcome by appropriate oxygen treatment. It is on the basis of this evidence that I believe the use of oxygen is a rational and important therapeutic measure. The essential indication of its employment is acute anoxemia. Since the abrupt onset of oxygen insufficiency occurs most frequently and most severely in pneumonia, it is in this disease that oxygen therapy is most needed.

"PROPRIETARY MEDICINES AND THE DOCTOR"—AND BOTTLE MAKER.

The physicians of the country have been flooded during the past few weeks with a leaflet reprint sent out by a trade publication. *The Glass Container* of New York City, but mailed from Chicago, where are located headquarters of the "patent medicine" organization. The title of the leaflet is "Proprietary Medicines and the Doctor," and it is supposed to give "Vital Reasons Why the Medical Profession and the Medicine Man Should Pool Their Ideals and Work Together to Benefit Humanity." The author of the leaflet, which is a reprint from *The Glass Container* for May, 1922, is Irwin G. Jennings. The reprint is prefaced with a biograhpical sketch of "Judge Jennings," a lawyer who it is claimed holds an "A. M." from Marietta College and "Ph.D." from Columbia University. The sketch fails to mention that Mr. Jennings is business manager of the "Glass Container Association" which, of course, is essentially interested in the development and extension of the glass bottle business; nor is it mentioned that Mr. Jennings is the editor of the official organ of this association, *The Glass Container*, in which the article originally appeared. The thesis that Mr. Jennings develops in his paper is briefly this: (1) "The bread and butter and economical success" of physicians "depends on establishing and maintaining a conviction in the minds of the American public that there are curative properties in properly selected drugs"; (2) the "patent medicine" intersts "*unassailed*, can easily keep the American public sold to the curative properties of drugs"; *ergo*, (3) the physician, as a business proposition, should not assail the "patent medicine" maker! The work is rather crude; in fact its very crudity makes one wonder how a Ph.D. (Columbia) could imagine that he could get away with it. In the development of his thesis Mr. Jennings runs in the usual stock arguments of the "patent medicine" people in favor of their business, arguments that are as feeble as they are fallacious. It is not necessary to refute or even to discuss this phase of his paper. We imagine Mr. Jennings is in no way to blame; he probably accepted the data furnished him by the nostrum people. That the business manager of the Glass Container Association and the editor of its official journal should favor the "patent medicine" business is understandable and natural. Nostrum makers are, doubtless, his best customers. As the shoemaker says, "There's nothing like leather." The astounding feature of the whole thing is that a man of intelligence should, in 1922, attempt to convince physicians that the only therapy of modern medicine is drug therapy. In his effort to do this, Mr. Jennings has undertaken a large and hopeless job.—*Jour. A. M. A.*, Sept. 30, 1922.

THE CONGENITAL FACTOR IN CHRONIC RENAL DISEASE.

Edward Weiss, Philadelphia (*Journal A. M. A.*, Sept. 30, 1922), records the clinical notes and pathologic findings in three uncommon cases of chronic renal disease occurring in comparatively young persons, associated with a marked degree of nitrogen retention and running a rapidly fatal course. In addition, because of the absence of a definite etiologic factor, together with an unusual appearance of the kidneys at necropsy, the importance of a congenital basis is emphasized, as an etiologic factor in these and similar cases.

NEUROPATHIC ARTHRITIS

A case is reported by JOHN H. DUNCAN, Sault Ste. Marie, Ont. (*Journal A. M. A.*, Dec. 9, 1922), to illustrate what happens to a joint when afferent nerves are destroyed. The patient complained of "rheumatism" in his right arm. He stated that in 1917 a log had fallen on his right shoulder while he was at work in the lumber woods. After recovering from the injury, he had been able to work, but at intervals he was forced to lay off with this so-called rheumatism. The arm was swollen from the hand to the shoulder, markedly so over the wrist, in front of the shoulder and over the lower part of the scapula. The appearance of the wrist suggested the dinner-fork deformity of Colles' fracture. He could move this swollen wrist and all the other points without making the least complaint, and he could do the same thing actively without any apparent discomfort. The swelling anterior to the shoulder joint was fluctuant, and suggested a hydrarthrosis. The glands were enlarged and easily palpable in the axilla. The next thing which aroused interest was the discovery of complete anesthesia in the skin of the right arm from the fingers to the shoulder and over an area which may be called right pectoral and right scapular on the trunk. Several roentgenograms were taken. That of the right shoulder showed only a separation of the articular surfaces, and it was concluded that this was due to fluid in the joint. One of the right elbow revealed almost a normal condition, with a slight exostosis from the head of the radius. The findings in the wrist were a complete disorganization of the carpus. The two rows seemed crowded together, as if compressed between the bones of the forearm and the metacarpals, and part of the scaphoid seemed to be squeezed out of its normal relations and was found lying external to the radius. The distal ends of the radius and ulna were hypertrophied, and the periosteum of each showed bone formation. The base of the fifth metacarpal had a worm-eaten appearance. Considering the clinical and roentgenographic appearance of this joint, the increased density with the absence of pain, the associated area of anesthesia and the history of injury, a diagnosis of neuropathic arthritis was made.

The following are abstracts of articles in the issue of *The Journal*, Jan. 6, 1923.

EXPERIMENTAL STUDIES ON THE ETIOLOGY OF ENCEPHALITIS.

Forty cases, representing different clinical types of the disease, have been studied by Edward C. Rosenow, Rochester, Minn. (*Journal A. M. A.*, Aug. 5, 1922). A large number of animals have been injected; the microscopic study of sections is not yet completed, and other details in the mass of experimental data are awaiting final analysis. The etiologic relationship of the foci of infection and of the green-producing streptococcus to the encephalitis in one case cited at length, Rosenow says, seems to be established. The organism was isolated from the infected teeth, from the filtrate of the nasal washings, from the blood during life, from an emulsion of the base of the brain after death, and from the filtrate of the brain emulsion. It was demonstrated in the lesions after prolonged search, and proved to be absent elsewhere. The microscopic changes in the brain were typical of this disease. The streptococcus from the infected teeth, from the blood and from the base of the brain was identical in morphology, cultural characteristics, and in immunologic properties. The strains, isolated from one infected tooth and from the brain, possessed well marked neurotropic properties. The chief symptoms of the patient, such as lethargy, weakness of the extremities, oculmotor disturbances, spasms and tremors of muscles, and apparent mental derangement, were produced by intravenous and intracerebral inoculation of small doses, and by packing the nose with gauze soaked in the culture, even after many subcultures. The lesions of the brain and the cord of the animals were also characteristic. The organism was isolated from the brain and the spinal fluid, and demonstrated in the lesions in the animals showing symptoms and those examined relatively soon after inoculation. In those that recovered and were chloroformed long after injection, the demonstration of the organism was often impossible. In a series of similar experiments with material from normal throats, the streptococcus having these peculiar properties was not found. Of fourteen rabbits injected intracerebrally with salt solution suspensions of nasopharyngeal swabs from fourteen normal persons, five died of meningitis within forty-eight hours. In four green-producing streptococci, and staphylococci, and in one hemolytic streptococci were isolated. The green-producing streptococci were not agglutinated by the antiencephalitis serum, and sections of brain and cord showed only leukocytic infiltration of the meninges. Nine remained well and were chloroformed for examination in from ten to nineteen days after injection. Cultures of the brain, the spinal fluid and the blood were negative, and sections of the brain and the cord revealed no changes. The hemolytic streptococcus isolated from the blood of the patient after death produced suppurative meningitis when injected intracerebrally. On the basis and that the infecting power of the relatively few strepble virus, as usually understood, was absent in this case, of experimental results, Rosenow assumes that a filtratococci in these materials was insufficient to overcome the resistance of the animals. The agglutination and protection experiments with the monovalent antiencephalitis serum prove the close relationship of the streptococcus from this case to the one isolated from the case of typical epidemic (lethargic) encephalitis with which this serum was prepared. The similarity in cultural characteristics and immunologic properties of most of the strains isolated from the different cases studied has been demonstrated. Mice and rabbits have been protected with this serum against the heterologous strains. Moreover, encouraging results have been obtained in a number of patients to whom it was possible to administer the serum soon after the onset of symptoms of encephalitis.

EFFECTS OF INTRATRACHEAL MEDICATION OF GAS BURNS OF THE RESPIRATORY TRACT.

Lafayette Page, Indianapolis (*Journal A. M. A.*, July 22, 1922), states that intratracheal medication is clearly indicated in all forms of inflammation of the lower respiratory tract resulting from the caustic action of poison gases. It should be used as early as possible after gassing, for the purpose of relieving the first symptoms of pain and asphyxia and reducing the extent of secondary infection, by facilitating drainage of the trachea and bronchi and rendering the passages as sterile as possible, through the antiseptic properties of the oil solutions. This method of treatment shortens the process of suppuration in the secondary stage by aiding the lung reflexes, in expelling the necrotic membranes and products of inflammation, and in healing the ulcerated surfaces, thus relieving the strain on the nerve centers and checking the cough and spasmodic efforts to expel the debris; and thus improving oxidation, diminishing toxic absorption and affording rest to the whole organism. Through shortening the healing process, the permanent damage to the pulmonary mechanism is lessened, there is less surface denuded of epithelium, less scar formation, less peribronchial thickening and, consequently, less tendency to chronic bronchitis and predisposition to tubercular infection. Observations and experience in using this treatment before, during and since the war, have convinced Page that all forms of laryngitis, bronchitis, bronchiectasis and asthma, with all the different kinds of distressing coughs and spasms associated with these affections, are more quickly and effectually relieved by this form of treatment, and it is urged in this class of disorders.

CONTRIBUTION OF STUDENT HEALTH SERVICES TO PUBLIC HEALTH.

A health service according to J. Howard Beard, Urbana, Ill. (*Journal A. M. A.*, July 22, 1922), is neither an institution of philanthropy nor an organization for the promotion of paternalism. It strives to cooperate, not to compete, with the medical profession. It augments rather than decreases the practice of local physicians. It has nothing to do with either compulsory health insurance or contract practice. It functions solely in the interest of sound economy by keeping the maximum number of students in the classroom and by insuring the investment in education by teaching elementary knowledge of the human machine, which each student must handle for the remainder of his life. It endeavors to keep the normal fit; to restore the ill quickly to health. Health, as defined by it, is not merely the absence of disease, but the sustained striving for physical, mental, and moral perfection—constructive, dynamic, living in the best environment that modern science is capable of producing. Its purpose is to bring to the student, and through him to his community, the principles of hygiene and sanitation, as they pertain to him, to his home and to his vocation. Instruction to produce the necessary education—to promote this essential cooperation in making sanitary improvement more nearly commensurate with sanitary knowledge—must present a demonstration so clearly as to make the proper deduction inevitable. Periodic physical examinations, personal conferences, physical education, sanitary inspection and didactic instruction offer this opportunity for a student health service to make a distinct contribution to public health.

AN OUTLINE FOR THE RATING OF HOSPITALS.

William Everett Musgrave, San Francisco (*Journal A. M. A.*, Aug. 19, 1922), gives the following definition of a hospital: A hospital is an institution suitably located, constructed, equipped, organized, managed and personneled to supply, scientifically, economically, efficiently and unhindered, all or any recognized part of the complex requirements for the prevention, diagnosis and treatment of physical, mental and the medical aspect of social ills; with functioning facilities for training new workers in the many special professional, technical and economic fields essential to the discharge of its proper functions; and with adequate contacts with physicians, other hospitals, medical schools and all accredited health agencies engaged in the better health program. A hospital that fulfils this definition is said to be the ideal general hospital; one that fulfils it with the exception of neuropsychiatry and contagious diseases may be appropriately designated a "limited general hospital;" and one occupying a less inclusive field may be classed as a "special hospital." The character and degree of limitation of special hospital may be appropriately indicated by prefixes and suffixes to the name. Under this definition, fair rating of hospitals is not dependent on size, character of ownership and management, the inclusiveness of its field of activities, its architectural beauty, or any other of its more material qualities, except so far as they affect function. *Rating and classification should be definitely and specifically based on the unhampered fidelity, efficiency and effectiveness with which a hospital discharges the three fundamental functions of every hospital, which are: (1) service for those who are ill, (2) service in the prevention of disease and and (3) service in education and research.* For the details of the author's scheme of classification, the original paper must be consulted.

In recent years there has been a renewal of interest in the employment of *B. acidophilus* in intestinal toxemias. Anthony Bassler and J. Raymond Lutz, New York (*Journal A. M. A.*, Aug. 19, 1922), assert that any benefits that may come from the administration of *B. acidophilus* are contingent on whether or not the case is of the putrefactive type (and not the fermentative), namely, one in which the biologic consequence from activity of bacteria in the intestinal canal is that of a lowering of the normal acidity of the intestinal contents. In the putrefactive cases no actual bacteriologic change beneficial to the host is brought about by effect on the anaerobes or the secondary putrefactive organisms of the gram-negative group. They are present as before, and with all the potencies in no way affected.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Exercise and Education and Medicine. By R. Tait McKenzie, M. D., LL.D., Professor of Physical Education and Physical Therapy and Director of the Department of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 445 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $5.00, net.

The Successful Physician. By Verlin C. Thomas, M. D. Visiting Physician to Franklin Hospital, San Francisco. Octavo of 303 pages. Philadelphia and London. W. B. Saunders Company. 1923. Cloth, $4.00.

Practical Physiological Chemistry. By Philip B. Hawk, Jefferson Medical College, Philadelphia. Eighth edition revised, with six full-page color plates and some 200 illustrations. Philadelphia. P. Blakiston's Son & Company. Price, $5.00.

Practical Handbook on Diseases of Children. By Bernard Myers, M. D. Sixty-one illustrations. Philadelphia. B. Blakiston's Son & Company. Price, $5.00.

The Constitutional Factors in Dementia Precox. By Nolan D. C. Lewis, M. D. Nervous and Mental Disease Publishing Company, New York and Washington. 1923. Price, $3.00.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillan Company. New York. 1922.

The Psychology of Misconduct, Vice and Crime. By Bernard Hollander, M. D. New York. The Macmillan Company. 1923.

Recipes for Institutions. The Macmillian Company. New York. Price, $1.50.

Principles and Practice of Infant Feeding. By Julius H. Hess, M. D. 460 pages. F. A. Davis Company. Philadelphia. Price, $4.50.

The Cruise of the Snark. By Jack London. Illustrated. The Macmillan Company. New York. Price, $2.50.

Thyroid and Thymus. By André Crotti, M. D., F. A. C. S., LL. D. 2d Edition thoroughly revised, with 105 illustrations and 39 plates in colors. Lea & Febiger, Philadelphia and New York. 1922. Price, $15.00.

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M. D., St. Paul. 5th Edition revised and enlarged. 14 color plates and 623 other illustrations. Philadelphia. P. Blakiston's Son & Co. 1922. Price, $12.00.

Diseases of the Ear, Nose and Throat. By Wendell Christopher Phillips, M. D. 6th Edition, illustrated with 578 halftone engravings and 37 full page plates. F. A. Davis Co., Philadelphia. 1922.

Premature and Congenitally Diseased Infants. By Julius H. Hess, M. D. Illustrated with 189 engravings. Lea & Febiger, Philadelphia and New York. 1922. Price, $5.50.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillian Co., New York. 1922.

A Manual of Diseases of the Eye, Nose and Throat. By Cornelius G. Coakley, A. M., M. D. 6th Edition, revised and enlarged. Illustrated with 145 engravings and 7 color plates. Lea & Febiger, New York and Philadelphia. 1922. Price, $4.25.

The Medical Clinics of North America (New York Number). Vol. VI, No. III, November, 1922. By New York Internists. Octavo of 365 pages and 21 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, $12.00; Cloth, $16.00 net. W. B. Saunders Company, Philadelphia and London.

The Golden Bough, A Study in Magic and Religion. By Sir James George Frazer. The Macmillan Co., New York. 1922. Price, $5.00.

Constantinople Today, or the Pathfinder Survey of Constantinople. A Study in Oriental Social Life. Under the direction of Clarence Richard Johnson, M. A. The Macmillan Co., New York. 1922. Price, $5.00.

Some Impressions of My Elders. By St. John G. Ervine. The Macmillan Co., New York. 1922. Price, $2.25.

A More Honorable Man. By Arthur Somers Roche. The Macmillan Company, New York. Price, $2.00.

The Red Redmaynes. By Eden Phillpotts. The Macmillan Company, Philadelphia.

Rest, Suggestion and other Therapeutic Measures in Nervous and Mental Diseases. By Francis X. Dercum, M. D. Philadelphia. P. Blakiston's Son & Co. 2d Edition.

The Kingdom of Evils. By E. E. Southard, M. D., and Mary C. Jarrett. New York. The Macmillan Company. 1922.

The Practice of Preventive Medicine. By J. G. Fitzgerald, M. D. St. Louis. C. V. Mosby Co. 1922. Price, $7.50.

Nervous Ills, Their Cause and Cure. By Boris Sidis, M. D. Boston. Richard D. Badger, The Gorham Press. 1922.

Life Shortening Habits and Rejuvenation. By Arnold Lorand, M. D. Carlsbad. Philadelphia. F. A. Davis Co. 1922. Price, $2.50.

Types of Mental Defectives. By Martin W. Barr, M. D. 31 plates containing 188 illustrations. Philadelphia. P. Blakiston's Son & Co. 1922.

Tuberculosis, Its Cause, Cure and Prevention. By Edward O. Otis, M. D. New York. Thomas Y. Crowell Co. 1922.

Signs of Sanity and the Principles of Mental Hygiene. By Stewart Paton, M. D. New York. Charles Scribner's Sons. 1922. Price, $1.50.

The Biology of Death. By Raymond Pearl. Philadelphia J. B. Lippincott Co. 1922.

The Foundations of Personality. By Abraham Myerson, M. D. Boston. Little, Brown and Company. 1922.

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner, M. D. 2d Edition. St. Louis. C. V. Mosby Co. Price, 75c.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery. 2d Edition. Philadelphia. P. Blakiston's Son & Co.

Acute Cases in Moral Medicine. By the Reverend Edward E. Burke. New York. The Macmillan Company. 1922.

Mind-Energy, Lectures and Essays. By Henri Bergson. New York. The Macmillan Company. 1920.

The Laws of Sex. By Edith Houghton Hooker. Boston. Richard G. Badger, The Gorham Press. 1922.

Regional Anesthesia. By Gaston Labat, M. D. With a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $7.00 net.

A Short History of the World. By H. G. Wells. Illustrated. New York. The Macmillan Company. 1922.

Neighbors Henceforth. By Owen Wister. New York. The Macmillan Company. Price, $2.00.

A Daughter of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

A Son of the Middle Border. By Hamlin Garland. New York. The Macmillan Company. 1922.

The Surgical Clinics of North America. (Issued serially, one number every other month.) Volume II, Number VI), St. Louis Number, December, 1922), 248 pages, with 105 illustrations and complete Index to Volume II. Per clinic year (February, 1922, to December, 1922). Paper, $12.00 net; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company.

BOOK REVIEWS

Exercises in Education and Medicine. By R. Tait McKenzie, M. D., LL. D., Profesor of Physical Education and Physical Therapy and Director of the Department of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 445 illustrations. W. B. Saunders Company, Philadelphia and London. 1922. Cloth, $5.00 net.

We are here introduced to the third edition to what has been generally accepted as the best work on exercise in educational medicine. It is a subject which has been neglected by the medical profession to our shame and sorrow. It is written for students and practitioners of physical training, for teachers, medical students and practitioners, and gives a splendid presentation of the subject in its relation to education and treatment of abnormal or diseased conditions. The new edition allows of the author giving his experiences as physical training officer in the British army at Aldershot, and as inspector of physical therapy in camps and hospitals in England, Canada and the United States. It is a work well worth a place in the library of every practicing physician.

The Successful Physician. By Verlin C. Thomas, M. D., Visiting Physician to Franklin Hospital, San Francisco. Octavo of 303 pages. W. B. Saunders Company, Philadelphia and London. 1923. Cloth, $4.00.

Dr. Thomas has given us a most interesting work which will prove helpful and reward well any medical reader for time given to it. It treats with such subjects as "Personality," "How to Attract and Hold Patients," "Choice of Location," "Office Equipment, Accounts and Management," "Investments," "Ethics," "Medical Law," "Insurance," etc., etc. It is a guide to success in the practice of medicine, and should prove of inestimable value, especially to the young practitioner in pointing out to him mistakes which older men have made and have learned of only through experience.

Practical Physiological Chemistry. By Philip B. Hawk, Jefferson Medical College, Philadelphia. 8th edition revised, with 6 full page color plates and some 200 illustrations. P. Blakiston's Son & Company, Philadelphia. Price $5.00.

The exhaustion of seven editions with a printing of the eighth testifies to the value and approval which has been given to Dr. Hawk's splendid work on physiological chemistry, a work designed for courses in the subject in schools of medicine and of science. For some years it has maintained a place of its own in literature on this subject, and has been generally accepted by the teachers of physiological chemistry as a standard text. The size of the eighth edition is somewhat larger than that of previous issues, due to the insertion of much new matter in spite of the deletion of a considerable number of old tests and methods which have outlived their usefulness. The bulk of the new matter has been put under the section on "Blood Analysis," "Acidosis," "Quantitative Analysis of Urine," "Vitamines," and "Kidney Function." By permission of Dr. Knight of the Metropolitan Life Insurance Company, Benedict's clinical quantitative test for sugar and Folin's clinical quantitative test for albumin are given.

Practical Handbook on Diseases of Children. By Bernard Myers, M. D., 61 illustrations. P. Blakiston's Son & Co., Philadelphia. Price $5.00.

We have here an interesting English text on Pediatrics by Bernard Myers, physician to the Royal Waterloo hospital for women and children, London. It is essentially a practical book but laying special stress on matters concerning treatment. While the author is responsible for the large majority of the book, several special sections have been written by his London associates. The author has succeeded in giving us a concise, practical text, which will be of especial interest to the general practitioner and the senior medical student.

The Constitutional Factors in Dementia Precox. By Nolan D. C. Lewis, M. D. Nervous and Mental Disease Publishing Company, New York and Washington, 1923. Price $3.00.

This is number 35 of the well known Nervous and Mental Disease Monograph Series, and pays particular attention to the Circulatory System and to some of the Endocrin Glands in their relation to Dementia Precox. The work is outlined under the following headings: "Introduction," "The Circulatory Organization as an Organic Component in the Dementia Precox States," "Case Summaries on Hebephrenic Types—On Catatonic Types—On Mixed States," "Discussion," "Conclusion," and "Bibliography." It is a most valuable, timely and

interesting contribution to the literature on the subject.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillan Company, New York, 1922.

The author states in his preface that this book is not a systematic treatise on psychopathology or psychoanalysis, but rather a discussion of some of the fundamental problems which must be solved before our knowledge in this field may be accurately systematized. Some knowledge of the subject is necessary for proper understanding of the text. The work is divided into four general parts, namely: "Freudian Formulations," "The Relationship of Psychoanalysis and Suggestion," "The Preconscious Phase," and "Instincts and Their Manifestations." It is a critique of psychoanalysis and suggested formulations, and is recommended to the advanced lay reader on the subject and to the physician.

The Psychology of Misconduct, Vice and Crime. By Bernard Hollander, M. D. The Macmillan Company, New York. 1923.

This work is the results of twenty-five years' special practice and constant contact with patients suffering from character defects leading to moral failings, and contains the results of the author's reflections and experiences. It is written from the standpoint of "the new psychology" and deals with the primary emotions and instinctive tendencies which are at the basis of all human behavior, normal and abnormal. It is a most interesting work, and is recommended to the physician interested in conduct and behavior, to the teacher, and especially to the social worker.

Recipes for Institutions. The Macmillan Company, New York. Price $1.50.

This is not the ordinary "cook-book" but a collection of recipes edited by the Chicago Dietetic Association in the interest of better food for the institution. It is compiled from recipes contributed by some seventy dietitions and others interested in institutional cookery.

Principles and Practice of Infant Feeding. By. Julius H. Hess, M. D. 460 pages. F. A. Davis Company, Philadelphia. Price $4.50.

In this edition the author has presented the very latest and the best conceptions on the subject of Infant Feeding, in a very concise and practical manner. The chapters on maternal nursing and the care of the premature infant, are strictly in keeping with our modern views. The author states clearly the important role the vitamines play in feeding, especially when artificial methods of feeding are utilized.

A study of the chapters on nutritional disturbances would more than repay one for the small cost of the book. The volume shows clearly that the writer has had a wide personal experience in this important subject. To anyone at all interested in infant feeding the book will prove itself of inestimable value.

IN LIGHTER VEIN.

The Cruise of the Snark. By Jack London. Illustrated. The Macmillan Company, New York. Price $2.50.

London has given us a true story of adventure. The exploits of a forty-three foot sailboat equipped with a seventy horsepower engine on a long cruise through the Pacific Ocean. It is beautifully illustrated and everyone who loves adventure will read it with delight. It reminds one of Stevenson's voyage in the same waters and ranks with it in interest.

REPUTATION.

The following splendid interpretation of the responsibilities of reputation, written by Mr. McCauley, the President of a well known automobile firm, may well be applied definitely to the medical profession. This is presented to the physicians of America by the Dermatological Research Laboratories, as the sentiment which inspired its founders to manufacture the best possible products, and which stimulates its present directors to the constant improvement of D. R. L. Arsphenamine and Neoarsphenamine.

"The man who builds and the man who buys are both beneficiaries of a good reputation. To the one it is a continuous spur and an incentive—to the other the strongest of all guarantees that what he buys is worthy. We sometimes speak of winning a reputation as though that were the final goal. The truth is contrary to this. Reputation is a reward, to be sure, but it is really the beginning, not the end of endeavor. It should not be the signal for a let-down, but, rather, a reminder that the standards which won recognition can never again be lowered. From him who gives much—much is forever after expected. Reputation is never completely earned—it is always being earned. It is reward—but in a much more profound sense it is a continuing responsibility. That which is mediocre may deteriorate and no great harm be done. That which has been accorded a good reputation is forever forbidden to drop below its own best. It must ceaselessly strive for higher standards. If your name means much to your public—you are doubly bound to keep faith. You have formed a habit of high aspiration which you cannot abandon—and out of that habit created a reputation which you dare not disown without drawing down disaster. There is an iron tyranny which compels men who do good work to go on doing good work. The name of that beneficent tyranny is reputation. There is an inflexible law which binds men who build well, to go on building well. The name of that benevolent law is reputation. There is an insurance which infallibly protects those whose reason for buying is that they believe in a thing and in its maker. The name of that kindly insurance is reputation. Choose without fear that which the generality of

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A revised copy of "Treatment of Syphilis" will be sent without cost to any physician addressing The Dermatological Research Laboratories, Philadelphia or The Abbott Laboratories, Chicago.

A STUDY OF EXOPHTHALMIC GOITER AND THE INVOLUNTARY NERVOUS SYSTEM.

Acording to CHARLES C. LIEB, HAROLD THOMAS HYMAN and LEO KESSEL, New York (*Journal A. M. A.*, Sept. 30, 1922), autonomic imbalance presents all the symptoms of exophthalmic goiter with the single exception of increased basal metabolism. The majority of patients presenting exophthalmic goiter give a history, past or present, of autonomic imbalance. The actual transition from autonomic imbalance to exophthalmic goiter has been observed. The transition is characterized by an augmentation of the symptoms of autonomic imbalance plus a metabolic upset, as evidenced by an elevated basal metabolism. Though thyroid enlargement and autonomic imbalance may be present independently, their frequent association is probably more than a mere coincidence. The causative relation between these has not yet been determined, but it seems improbable to the authors that thyroid hyperplasia is the cause of the imbalance. Only one therapeutic suggestion is offered, namely, the use of atropin in disturbances of the bulbosacral division of the involuntary nervous system. Whether tonus is increased or decreased, atropin may be employed. If the tonus is low, small doses are indicated; they stimulate the center without affecting the nerve endings. If the tonus is high, large doses paralyze the endings and nullify the excessive central action.

THE HIGHER EDUCATION OF CHIROPRACTORS.

What is your favorite light literature? Detective stories? Mystery stories? Humor? Have you ever read the publications issued by the various species and subspecies of the chiropractic cult—for there is, as you know, a lack of unanimity among the chiropractors. One particularly choice piece of contemporary journalism is issued by a chiropractor factory in Fort Wayne, Indiana. Its July, 1922, isue makes good hot weather reading. The editor discusses a "model bill," recently drawn up by those chiropractors of Indiana who belong to a different subspecies from those represented by the publication in question. This Fort Wayne journal views the bill with disfavor. It says, with refreshing naïveté:

To begin with there is absolutely no need of a Chiropractic licensing and examining board in Indiana today. The existing lot of Chiropractors in Indiana cannot be improved upon. You are not being persecuted or prosecuted, you are left severely and strictly alone to practice your profession without let or hindrance from any source or any group of any kind. In fact, Indiana today is the best Chiropractic state in the entire country. Chiropractic conditions are as near ideal as it is humanly possible to approach that condition.

But the fact that Indiana is the home of the free, chiropractically speaking, is not the only objection this journal has to the proposed bill. It seems that the bill would require applicants for chiropractic examinations to submit satisfactory proof of the possession of a preliminary education, equal to that of a high school. Perish the thought! As the editor says:

How many Chiropractors in Indiana today could qualify under that rule? Of all the Chiropractors in Fort Wayne, I do not happen to know of ONE that is a high school graduate. In fact, I believe that the total number in Indiana able to comply with that ruling would be less than two per cent of all the Chiropractors in the state.

From the point of view of the owner of a chiropractic "college" the sentiments just quoted are eminently logical. It would be entirely unfair to chiropractic schools to insist on matriculants being educated human beings. What educated human being would ever attend a chiropractic school? Of course, from the point of view of public interest—but that's another story—*Jour. A. M. A.*, July 15, 1922.

THE ROLE OF UNRESOLVED PNEUMONIA IN BRONCHIAL ASTHMA

In nine cases of bronchial asthma reviewed by JOSEPH HARKAVY, New York, (*Journal A. M. A.*, Dec. 9, 1922), in which the asthmatic attacks were dated from an antecedent pneumonia, five of the patients gave a history of influenzal bronchopneumonia in 1918, 1919 and 1920. In all of the cases, the roentgen-ray shadows were interpreted as being due to unresolved pneumonia. In two of this group in which the asthma was of longer duration, bronchiectatic cavities were found by bronchoscopy. Aspiration of these bronchi yielded fibrin flakes from which anhemolytic streptococci were recovered in pure culture. Four of these cases were treated by application of roentgen rays to the involved lung area, with disappearance of the pneumonia and with the formation of diaphragmatic adhesions within a period of from four to five months. One patient was treated with typhoid vaccine with similar results. With the disappearance of the focus, as demonstrated by the roentgen ray, definite improvement of asthmatic attacks was noted. (We used the roentgen ray as well as typhoid vaccine as nonspecific therapeutic agents.) Whether this improvement will be permanent, it is at present too early to state. All of these cases have been observed for one year. In none of these cases have positive cutaneous tests to foreign proteins or bacterial proteins been obtained.

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ORIGINAL ARTICLES.

THE CHALLENGE OF THE CHRONIC PATIENT FROM THE PUBLIC HEALTH STANDPOINT.*

BY M. P. RAVENEL, M. D.,

PROFESSOR OF PREVENTIVE MEDICINE AND BACTERIOLOGY, UNIVERSITY OF MISSOURI.

The Premier of England is quoted as having said that, except for defectives, England could have put one million more men into the field and brought the War to a successful termination much earlier than was actually the case. In urging measures to improve conditions in England, he said, "You cannot maintain an A1 empire with a C3 population." As a result of her experiences, England has now established a Ministry of Health. Sir George Newman, in outlining the work of this Ministry, defined the objects of preventive medicine as follows:

"To develop and fortify the physique of the individual and thus to increase the capacity and powers of resistance of the individual and the community.

"To prevent or remove the cause and conditions of disease or of its propagation.

"To postpone the event of death and thus prolong the span of man's life."

While one may read between the lines of this definition much that is not evident, I miss from it a plain declaration of what I believe to be the chief object of all hygiene and preventive medicine, namely, efficiency. A recent writer has defined health as being "the quality of life that renders the individual fit to live most and to serve best." My own definition, I would state as follows: "Health is that condition of the body and mind which conduces most to happiness and efficiency."

It is perfectly evident that a sick man may be efficient to a degree because of the superiority of mind over matter. His work is done at great physical expense, and by driving, but he can be neither physically nor mentally entirely happy. On the other hand, many mental defectives are in perfect physical health and apparently happy, but they are unable to do anything worth while.

I cannot but feel that throughout the entire past, and even at the present time, health has been regarded chiefly as freedom from evident disease, and valuable to a person because of making death apparently more remote. In other words, it is the fear of death which activates most people in considering the matter of health. While premature death is a great economic loss, it does not compare to inefficiency in its cost to the country. For these reasons, I put efficiency as the keynote of all preventive medicine.

We can best appreciate the challenge of the chronic patient from the public health standpoint by contrasting acute with chronic disease. The epidemic of influenza in 1918 and 1919 is still fresh in the minds of all of us. We have scarcely yet recovered our equilibrium and scientifically are still staggering under the impact of the blow, yet it must be admitted that in epidemic form the disease has accomplished its mission and gone, leaving little behind physically except the graves of its victims to remind us of its visit. In spite of its appalling death-rate business was only temporarily disturbed, and those who survived speedily regained their normal health and strength. The scars left on the nation are the graves of the young who might otherwise have lived to a useful citizenship. The nation lost totally a deplorably large number of its citizens, but the loss ceased with the epidemic, and there are no maimed and wounded to be cared for, no burden to be carried for years to come. Such is the history of epidemics generally—they come, rage and go on their way, leaving us little the worse except for the loss of life.

The same is true of the acute diseases generally, epidemics as well as those which do not occur in epidemic form as a rule.

Entirely different is the picture presented by endemic diseases—a low death-rate as a rule, but a high sick-rate, a large proportion of the community more or less incapacitated for mental or physical work day after day, week after week,

*Read before the 76th Annual Meeting of the State Medical Society of Wisconsin, Green Lake, Sept, 8, 1922.

month after month, and year after year, business and production slowed, vigor and manhood sapped, character and courage lost, progress stopped, districts depopulated, and as history shows, perhaps an entire people may fall before more vigorous enemies and disappear.

In illustration of my theme, I have selected first, malarial fever. It appears that three great civilizations of the past have disappeared from the earth on account of this disease—ancient Greek, the Etruscans, and the ancient Romans.

Greece. As far as we can judge from history, malaria was endemic in Greece 400 years before Christ. Interesting as are the physical descriptions, the effects on character described by early writers are perhaps more so. Malarial cachexia is well described—its victims are said to have large spleens, but thin faces and shoulders; aging is premature and the span of life short. The chronic malarial subject is described as short of stature, dark haired, dark colored, bilious, lacking in courage as well as endurance. We are told that Dionysius attempted to train the crews of the fleet collected to resist the Persians, but the men soon became exhausted by the unusual exertion and heat, and refused to continue. Many of them fell ill and all looked forward to becoming ill through exertion. Plutarch states that the Greeks of his day were obliged to avoid fatigue lest an attack of fever should be brought on.

The blighting effects of malaria on energy and character were recognized by the early Greeks. The word melancholy, meaning black bile, occurs soon after the Greek words for malarial fever became common. Melancholia was caused by black bile, to which quartan fevers were attributed by many Greek physicians, and Galen stated that large spleens were due to an excess of melancholy humor.

There is no doubt that contemporaneously with the increase in malaria, as shown in both medical and lay writings, Greek character began to change for the worse—decay set in. Their brilliancy left them, initiative was lost, vacillation and indecision, weakness, cowardly depression and cruelty marked their conduct. The philosophy of even their best writers became pessimistic, and their former lofty patriotism was lost.

Superstition increased. Between 429 and 400 B. C., a statue of the "Health-Athena" was erected in the Acropolis at Athens. The worship of Æsculapius, the god of healing, was introduced into Athens from Epidaurus about the close of the fifth century. His festivals were in March and September, respectively the beginning of the malarial season in Greece and its height. There was a steady decline from the rational methods of treatment introduced by Hippocrates and an increasing belief in dream-oracles, charms and other superstitions, a mixture of religion, magic and empiricism.

There is good reason also to believe that the downfall of Sybaris, one of the most wealthy cities of ancient times and so populous that they could put an army of 300,000 men in the field, was also due to malaria. Their name has come down to us a synonym for love of ease and pleasure, yet the great wealth and influence of these people prove that they had energy and determination at one time. Their reputation for love of ease and effeminancy may have come from the precautions necessary to preserve health. The city was located in a hollow at the junction of the Crathis and Sybaris rivers, where it was hot at midday and cold at morning and evening. From this probably arose the saying that he who did not wish to die young must avoid seeing the sun when it rose or when it set—advice which might well be given in a malarial district. Probably here as elsewhere, malaria was only one of several factors in the decay of the people. The city was finally conquered by the inhabitants of Croton, who though vastly inferior in numbers to the Sybarites, turned the course of the Crathis to inundate the city, the ancient site of which is now a malarious swamp. It is of interest to note that ancient writers speak of Croton as being proverbial for its healthfulness, and this probably accounted, in part at least, for their conquest over superior numbers.

Italy. In Italy we find that two civilizations have disappeared. Without entering into controversial points as to the origin and identity of the Etruscans, it may be stated with certainty that they came from abroad ages before Rome was founded, and through superior skill and energy subdued the various people inhabiting the land, possessed themselves of the larger part of the Italian peninsula, remained dominant for many centuries, built populous cities fortified by mighty walls, attained a high degree of civilization, second only to that of the Greeks, developed navigation and commerce to an extent that made them for centuries "lords of the sea," became eminent

in military tactics, agriculture, medicine, arts and other sciences, especially astronomy.

This wonderful people disappeared leaving no history of itself. Of the internal life and customs of the nation we have learned only recently through exploration and excavation. Their great reverence for the dead and firm belief in a future life led them to store in their tombs treasures of art, articles of personal adornment, vases, urns, mirrors, et cetera, which have revealed much of their life to us.

"In five centuries the Pontine district was converted from a fertile land, so thickly populated with a warlike people as to excite the wonder of the historian, into a dreary marsh with few inhabitants and more or less unhealthy."

Concerning the decadence and disappearance of the Etruscans, we are obliged to rest largely on external history and what we find at the present time in the tombs referred to, which have only recently been explored.

Concerning the Romans, the first mention of malarial fever is found in B. C. 184. By B. C. 118-29, malaria was evidently well known. Varro says, "It is also to be noticed, if there be marshy places, that certain minute animals breed which are invisible to the eye, and yet, getting into the system through the mouth and nostrils, cause serious disorders."

No argument is needed to show the extent of malaria in Italy for several centuries past, nor the blasting effect it has had on the prosperity of that nation. Its effect on the character of the inhabitants has been equally as marked as in Greece. The more enterprising are apt to seek more healthy homes, leaving the poorer and less enterprising, who gradually sink lower and lower. North says of the people of the Roman Campagna: "The moral sense of the natives of these towns is so degraded that the death of a horse or a mule is said to be a matter of far greater concern to them than that of a child or relative."

While we cannot prove that chronic disease was entirely responsible for these bad effects, there seems to be little doubt that it was a prime factor in the decay and downfall of these three great peoples, and that the histories of Greece and Italy have been profoundly modified by the implantation and spread of malaria in these countries.

In the United States, according to the estimates of our Public Health Service, we have between six and seven million cases of malaria each year. While the death-rate is small, the efficiency of the sufferers is curtailed tremendously. The loss to the South in dollars can scarcely be estimated. Vast areas of the most fertile land in our country has lain idle for many years, and only recently with our knowledge of the agency of the mosquito in spreading the disease, and its breeding habits, have steps been taken to bring under cultivation these fertile regions, and to make them habitable for the white man.

Tuberculosis. In spite of the very gratifying decrease which has been observed in many parts of the world in tuberculosis, when one considers the influence of chronic diseases on the human race, this disease must at once come into the mind. It still leads all other diseases in the number of deaths and in the financial loss. These have been written about so often and by so many different people, that it is only necessary here to summarize the latest material gotten out by the Metropolitan Life Insurance Company. Unfortunately, this work is based on the 1910 census, and it is to be hoped that when the 1920 census has been thoroughly digested, that these figures will show improvement.

White males lose 3.5 years of life, or 7.6 per cent of their entire expectancy. White females lose 2.6 years, or 5 per cent of their expectancy, through tuberculosis. Among the negroes, the condition is much worse, reaching an average of five years, or 12 per cent and 13.2 per cent, respectively, for males and females. The money loss from tuberculosis is stupendous. Placing the money loss to our national wealth of each individual who dies at $100, each generation, with our present population, loses twenty-six and a half billions of dollars, or an average of five hundred million dollars annually. In other words, if tuberculosis could be done away with, the present generation would add twenty-six and a half billion dollars of wealth to the nation.

Hookworm. In 1899 Ashford demonstrated that the anemia of Porto Rico, which had been recognized as a scourge in that Island for more than one hundred years, was due to hookworm. In 1902, Stiles showed that the disease was endemic throughout a large part of the United States. It produces profound anemia, retarded mental and physical development, permanent reduction in height and weight, muscular weakness with aversion to exertion, miscarriage and stillbirth, and a high percentage of impotence in the

male and sterility in the female. Its effects on the moral character are no less marked, causing disobedience, cunning, lying, stealing, forgery and sexual perversions, while psychic retardation, irritability, depression and blunting of the higher sensibilities are believed by some to be results.

Infection is widespread in our Southern States, in which 35 per cent of those examined have been found to harbor the parasite. The young are particularly affected, 58.5 per cent being children under 16 in this country. The disease is of long duration, while the parasite may live 12 to 15 years.

The cost to the South in economic waste is estimated at between $250,000,000 and $500,000,000 yearly. This gives an index of the large number of persons infected as well as the influence of the disease in lessening vigor and ability to carry on productive pursuits. Lack of physical development and physical disability lessen working capacity, while retardation of mental development with low vitality reduce capacity to learn—thereby fostering ignorance. Apathy and lack of ambition are typical of the infection, leading inevitably to shiftlessness, poverty and degradation. Geographically the infection is widespread throughout the tropical and subtropical countries. Endemic foci are often found in more northerly climates, especially in mines, workers in which have shown infection to the extent of 65 per cent.

Animal Diseases. Although perhaps not entirely germane to the subject, if time permitted it would be most interesting to consider those diseases which are kept alive in animals in their chronic form and transmitted to man, such as tuberculosis of cattle, glanders in horses, and bubonic plague in the rat. These chronic diseases play a great part in the transmission of disease to human beings, and thus add to the loss to the country from chronic disease.

I have considered the chronic diseases chiefly from the economic standpoint. I have based my plea largely on efficiency. These two terms are to a great extent interchangeable in such discussions as this, though the dollars and cents argument is much more visible and potent to the average person than is general efficiency. From the purely Public Health standpoint, those diseases which are communicable from one person or animal to another are to be first considered. Every case of chronic disease is a focus of infection from which other cases take their origin. How many or how few cases occur from each focus cannot be told, but the number must be large, and in some cases in which we have definite knowledge, we know that several infections occur from a single case. In tuberculosis, the twelve hundred thousand people who are walking our streets, riding in public conveyances, and attending public meetings, are constantly spreading their infection to well persons. Cows suffering from chronic tuberculosis are constantly spreading the disease to children through their milk. Rats with chronic plague are a constant menace to the inhabitants of our seaports.

In the past, Public Health has concerned itself chiefly with the contagious diseases and their prevention. The newer point of view takes into consideration all those defects and diseases which lower efficiency and militate against good citizenship. Some of these defects which we see in the chronic or incurable form are the outcome of the "sins of the fathers visited upon the children." No system of Public Health practice which leaves these cases out of consideration can be regarded as fully effective. I need only mention the large number of mental defectives and the uncontrolled fecundity of many of these unfortunates. Modern Public Health recognizes its responsibilities in regard to these cases, not only in the prevention of first causes, but also in their control.

Those engaged in Public Health work recognize the chronic patient as a constant, and often a traveling source of infection, an unfortunate who is not guilty of any crime, yet who is a source of danger to his fellows, and who of necessity must be under the surveillance of the health authorities. We recognize the injury done the community in loss of efficiency, and in impairment of morale. We recognize the challenge of the chronic patient. We accept it as an incentive to work and investigation, not only for the benefit of the community, but of the patient.

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Let's Pull Together

THE RELATIONSHIP OF FATIGUE TO THE CHRONIC PATIENT.*

BY EDWARD H. OCHSNER, B. S., M. D., F. A. C. S.,
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It is impossible at this time to ascertain definitely or estimate even roughly the statistical frequency of chronic fatigue intoxication, because heretofore this affection has not been recognized as a definite disease entity, and because many of its symptoms and manifestations have been ascribed to other conditions and sometimes actually classified as other diseases. I am, however, more and more impressed with the fact that this condition adds greatly to the sum total of human discomfort, loss of efficiency, and morbidity in general and by attacking it in earnest both from the standpoint of prophylaxis and treatment much could be done by the medical profession to further ameliorate human suffering.

I believe its frequency and importance can best be emphasized by briefly enumerating and describing some of its more common and distressing symptoms and disabling manifestations, and pointing out how it will help specialists in practically every department of medicine to clear up some of the heretofore obscure diseases and thus aid in relieving many sufferers of their afflictions.

Every internist of wide experience has unquestionably come upon a number of cases of a peculiar infiltration of the subcutaneous areolar tissues, which he was unable to explain on the basis of kidney or heart lesions or other forms of obstruction to lymph circulation. If in such instances the clinician will look for the symptoms of chronic fatigue intoxication I am confident that he will find them in a considerable per cent of these cases. This peculiar condition which simulates ordinary oedema in some respects may involve all the subcutaneous areolar tissues of the body, including the face and hands, is symmetrical, does not pit, is not affected by posture, obliterates the normal contours and creases of the body so that if the arm for instance is bared and the fingers and hand are vigorously moved it is impossible to see the play of the tendons, makes the hands look swollen, pudgy and puffy and gives the patient a heavy, unintelligent look. The internist will, I believe, also find in this disease an explanation for some of his obscure cases of hyper-irritability and spasm of both the voluntary and involuntary muscles of the body and for some of his cases of myositis or so-called muscular rheumatism.

It will give him a clue as to how to treat some of the cases of excessive sensitiveness of the respiratory tract and a very considerable per cent of his cases of so-called asthma. Many of the more severe cases while sitting quietly will be observed to have a very definite respiratory cycle; the first respirations being very shallow and moderately increased in rate, and after ten or twelve of these short, somewhat rapid respirations, the patient will pull himself together, apparently making a voluntary effort and take two or three very deep, slow respirations, which in extreme cases often end up with a sigh. If these patients are observed for some time these cycles, at first short and rapid and finally deep and sighing respirations, are found to repeat themselves at regular intervals. A thorough understanding of this condition will also help the internist somewhat in a better understanding of his heart cases, because tachycardia and irregularity with a peculiar chugging of the heart simulating heart block in some respects, are common in the later stages, and will also explain some of the peculiar blood pictures because in the late stages of this condition leukopenia with cosinophilia is a common finding.

The gastro-intestinal tract is the seat of many of the symptoms of this affection, symptoms which in the past have, I believe, often confused the internist and the various specialists, and I firmly believe that a thorough understanding of this question will clear up many of these heretofore obscure conditions and will make it possible to relieve many patients who heretofore have been drifting from one practitioner and one specialist to the other and have been finally ending up with the quacks. In the severer cases the lips are red, dry, parched, cracked and covered with Herpes; the tongue coated, the mouth may be excessively dry with a burning sensation in the pharynx and gullet. Often there is a spasm of the upper end of the oesophagus simulating true stricture, and again the spasm may occur in the cardiac end of the stomach, simulating true stricture in this location. If the spasm occurs in the cardiac end of the stomach it is likely to prevent the normal escape of the swallowed air, with considerable

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eructation of gas when the spasm is suddenly relieved, rarely vomiting but often marked delay in the emptying time of the stomach without any organic cause to account for it except a hypertrophy of the pyloric sphineter. This hypertrophy of the pyloric sphincter is, I believe, just an attempt of the system to hold back the hyperacid stomach contents. This hyperacidity causes considerable heartburn, and that with the spasm of the various sphineters, causes much distress to the patient. The colon is often markedly distended with gas, the patient suffers from flatulency, sometimes accompanied with diarrhoea, more often with severe constipation, and occasionally alternate diarrhoea and constipation with very acid stools, which causes much irritation about the anus.

The surgeon can be much helped both in his diagnosis and treatment if he will make a thorough study of this condition and become familiar with all of its manifestations. In quite a large per cent of patients there are deposits in the subcutaneous areolar tissue, at points of origin and insertion of the tendons, and attached to the intramuscular septa, varying in size from millet seeds to black walnuts, which are hard, fairly freely movable, often symmetrical, often reddened and always exquisitely tender. I have had several patients where surgeons have advised the excision of these deposits, once on the theory that it was an ordinary pyogenic inflammation of a lymph gland and on another occasion in the belief that it was a tubercular nodule. Both of these cases made complete recoveries without operation when they were relieved of their chronic fatigue intoxication. In many of these cases there are small deposits in the points of insertion of the rectus abdominis muscles, namely, the fifth, sixth and seventh ribs. If the deposit occurs at the point of insertion of the seventh rib on the right side it may be mistaken for gallstone. This mistake is particularly prone to occur if the patient at the same time suffers from subicteric sclera, skin pigmentations, pylorospasm and hyperchlorhydria, so common symptoms in this condition. I have seen quite a number of patients where this mistake had been made and where the patient had been operated upon for disease of the gallbladder and the gallbladder even removed without the patient receiving a particle of benefit from the operation, and on careful examination these patients were actually found to be suffering from chronic fatigue intoxication and were completely relieved not only of the tenderness at the insertion of the right rectus muscle, but relieved of all their other chronic fatigue intoxication symptoms.

The tenderness along the spine caused by deposits in the tendons of origin and insertion of the spinal complex which causes so much distress among such a large number of persons, is often caused by this condition and gives rise to many faulty diagnoses, particularly that of tuberculosis of the spine, and as satisfactory treatment usually is dependent upon a correct diagnosis it naturally leads to failure in the great majority of these cases. The muscle spasm so generally found in these cases is sometimes mistaken for muscle hypertrophy, while as a rule the muscles are actually atrophic. The muscle spasm with the tenderness about the joint, due to the deposits already mentioned with diffuse swelling of the joint capsule, results in much stiffness and impairment of function and sometimes leads to the mistaken diagnosis of arthritis and even joint tuberculosis. I am sure that every general and orthopedic surgeon who takes an inventory of his cases and his knowledge occasionally, has come to the conclusion that there are certain forms of chronic arthritis that are not clearly understood and that do not properly fit into any of the clear-cut classifications of joint diseases. Heberden's Nodes, the unsightly and distressing affection of the fingers, is one of these. This and a considerable per cent of the others heretofore poorly understood chronic joint affections will I am sure be found to be simply symptoms of chronic fatigue intoxication and will respond promptly to treatment if the underlying disease is properly dealt with.

The genito-urinary specialist will find an explanation for some of the symptoms for which he finds no suitable pathologic explanation, such as the burning and tenesmus, increased frequency of urination, particularly at night where no local cause can be found. This nocturia even up to eight or ten times per night is often present in spite of the fact that the urine, with the exception of hyperacidity, may be perfectly normal, both chemically and microscopically. It will also explain many of the cases where there is marked difference from day to day in the quantity of urine voided. It will also explain some of the cases of crotism and impotence.

Dermatologists often find considerable difficulty in determining the cause of certain diseases and

symptoms, and unless they are able to remove the cause, find equally great difficulty in relieving the condition. In a very considerable number of cases of dermagraphia, urticaria, angioneurotic oedema, pruritus, herpes labialis, herpes zoster, seborrhea sicca and oleosa, fissures between the fingers and toes, about the corners of the mouth, anus and vulva, various pigmentations and tendency to bruising, I have found chronic fatigue intoxication is at the bottom of them and that nothing would relieve the condition until the basic disease was relieved. We all know what frantic efforts dermatologists often make in attempting to relieve urticaria, dermographia and angioneurotic oedema and how often their best efforts come to naught. This is true also with certain forms of pruritus, where heretofore it was impossible to find a cause. These cases of pruritus are often most trying to the family physician, the specialist and the patient, and yet when attacked from the standpoint of the underlying basic disease they are often very quickly and easily cured. Dermatologists of large experience will also tell us that the seborrheas are often very stubborn and that the remedies heretofore employed often prove unavailing. I have one such patient who suffered for more than ten years from Seborrhea Oleosa, in spite of the fact that for all this time he was under the care of one of the most skilled and learned dermatologists of Chicago, who was never able to cure the affection and only able to partially ameliorate the distressing symptoms. This patient recovered completely from the Seborrhea Oleosa without local applications or treatment directed specifically against the skin affection, when relieved of his chronic fatigue intoxication. I have had similar experience with a number of cases suffering from stubborn fissurings of various portions of the skin and also with some of the very disfiguring skin pigmentations which may occur on any portion of the body, but which are particularly annoying to female patients if they occur on the face.

The opthalmologists and otologists may also find that a knowledge of this condition will clear up some of their obscure cases. I am thoroughly convinced that some, at least, of the chronically irritated eyelids and conjunctiva, some cases of photophobia, some cases of amblyophia and asthenopia, and most of the cases of scotoma scintillans, can be explained on this basis. I believe that a large per cent of the cases of progressive deafness in older patients have their origin in this condition. Most of these patients suffer from chronic irritation and congestion of the pharynx, which I am inclined to think extends up into the Eustachian tube, and many of them at the same time suffer from a spasm of the tensor tympani muscles, the two factors acting together producing progressive deafness.

The neurologist, too, should find much help from a study of this condition. I believe it will in time take out of the category of functional nerve disorders a very considerable per cent of the cases that are now wrongfully classified there. This disease, while strictly an organic disease in which the pathological findings are as clear and definite as they are in appendicitis, for instance, simulates in many respects diseases ordinarily looked upon as functional nerve disorders. In time these patients become exceedingly sensitive to even the slightest variation from the normal, because the range of normal reaction to stimuli of all kinds is greatly reduced. Thus a stimulus that would produce a normal reaction in the average person may either have a greatly exaggerated effect or relatively slight effect, and in extreme cases no effect at all, depending upon the severity of the disease. The first result is likely to occur in the earlier stages, the second during the moderately advanced, and the third during the severe terminal stage. This peculiarity can be traced through all the symptoms, but is more noticeable in the symptoms referable to the nervous system. As the disease progresses the margin of endurance becomes narrower and narrower until the slightest exertion causes complete exhaustion. This gives us the explanation of the condition known as writer's cramp, a condition which occurs in people who do a great deal of writing, and a similar condition occurring in musicians, such as pianists and violinists who practice many hours a day on their respective instruments. This exhaustion may become so severe that every muscular effort becomes not only almost impossible but excessively painful. This, too, explains some of the cases of incoordination which formerly were difficult to explain, because in these cases of severe muscular exhaustion finer co-ordination often becomes very difficult. Some of these cases of impairment of coordination have actually been falsely diagnosed as spinal lues. It explains, too, some of the vasomotor disturbances, as in the early acute cases there is a rapid alternate dilatation and constriction of the superficial vessels even on very slight stimu-

lation. In the later stages we get very characteristic symptoms of extreme vasomotor irritation or vasodilator paralysis, when the complexion is ashen gray, or in other cases of extreme vasomotor paralysis when the patient becomes chronically florid. It will also give us a clue as to the cause and the method of treatment in all forms of neuritis. For many years I have been convinced that focal infections are after all the cause of neuritis in only a relatively small per cent of cases. I would say that not to exceed from twenty to twenty-five per cent of all cases of neuritis can be traced to focal infections. I am more and more convinced that at least twice as many cases of sciatica, lumbago, trifacial neuralgia, neuralgia of the brachial plexus and multiple neuritis, are caused by chronic fatigue intoxication than by focal infections.

I believe it will give us a clue to a better understanding of Paralysis Agitans and also to its prevention and cure, the latter at least of the early cases, and help the neurologist to clear up many of his obscure cases which for want of a better classification are now so often classified under the general heading of functional neurosis. These cases no more belong in this class than did gallstone symptoms of twenty-five years ago belong there under the heading of gastric neurosis.

If time permitted many similar illustrations could be cited, but these I think will suffice to emphasize the importance of a thorough understanding of this condition.

My honored teacher, Prof. James Nevins Hyde, repeatedly in his lectures made the statement that no man could hope to be a good general practitioner or a first-class specialist in any department of medicine unless he was thoroughly familiar with every phase of syphilis. I think this statement applies with equal force to chronic fatigue intoxication. It is a disease which is if anything more protean and more varied in its symptomatology and manifestations than even lues itself.

What has the general medical profession done for the relief of these sufferers? What have we done for the overworked farmer or his good wife who have come to us suffering with this condition? I dare say practically nothing.

Medicine and surgery have probably made greater progress in the last thirty-five years than any other department of human knowledge. But the good farmer with his lumbago or sciatica forgets that he may have been saved from typhoid fever and malaria by sanitary science, from diphtheria by antitoxin, from smallpox by vaccination, or mayhap from death from strangulated hernia or appendicitis or gallstones by a timely, skillfully executed operation, and forgets the fact that the length of life from 1851 to 1921 has on the average increased from thirty-five years to over fifty. I say he forgets of these benefits and wants relief from excruciating pain and from many of the symptoms which I have above described for which we have not given him relief with the degree of regularity to which he is entitled. And what wonder is it when after he has consulted three or four of his local physicians and possibly one or two noted specialists in distant cities that he seeks relief at the hands of quacks and charlatans? And in the long run it is well that he insists on getting relief. Progress depends upon dissatisfaction with things as they are. The dissatisfied run to quacks where they rarely get relief but incidentally incite the regular practitioners of medicine to greater and greater effort. Every community has a small percentage of citizens who belong in the class so accurately described by Barnum who are not happy unless they are buncoed. If the medical profession were 100 per cent perfect these would still be running to the quacks.

A thorough understanding of this disease will throw new light on many other diseases. Serious attention to it both from the standpoint of prophylaxis and treatment will, I am sure, add another chapter to medical progress, will restore to health many sufferers and incidentally rob the quacks of one of their chief sources of income and protect society against their depredations.

DIVERTICULUM OF THE STOMACH.*

REVIEW OF LITERATURE WITH REPORT OF CASE.

BY EUGENE E. TUPPER,

EAU CLAIRE.

Diverticula are classified as true and false; congenital and acquired. They are comparatively common, especially in the intestinal tract. Several hundred have been reported as occurring in the intestines of one individual. Diverticula are particularly common in the sigmoid and duodenum, but are exceedingly rare in the stomach, even if we count all types.

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By true diverticulum we mean one whose covering is composed of all the coats of the wall of the viscus in which the diverticulum occurs. The false type lacks one or more such coats.

Several cases have been reported as diverticula of the stomach which were not diverticula at all, but were pockets formed by perforating ulcers. Carman[23] calls these "Accessory Pockets" which adequately distinguishes them from diverticula.

Traction diverticula furnish the largest number of diverticula of the stomach. A few cases are supposed to be caused by pressure or by foreign bodies.

Diverticula of the stomach in children are almost never seen, which fact makes the pathogenesis of the congenital type rather obscure. However, a number of cases have been reported which contained all the layers of the stomach wall throughout, the end of the pounch free, no adhesions, and no ulcer or carcinoma present. All are agreed that these cases are congenital, and probably must be so classified until our further knowledge of their pathogenesis changes or confirms such classification. In all of the so-called congenital diverticula the muscle has been found much thinned out in one or more of its layers. This apparently might show a developmental disturbance.

As regards location, no part of the stomach seems exempt. They have been found at the pylorus, along the greater and lesser curvatures, at the cardia, and on the anterior and posterior walls. Klass[6] reported one case with a diverticulum at the pylorus and one at the cardia in the same stomach.

K. Secher[21] in 1917, reviewed the literature and found 20 cases of true diverticula reported, his own making 21 in all. Some of these dated back to before 1804. I have undertaken a somewhat thorough review of the literature and have found 10 cases which were not included in Secher's 21 report, and since his review I have found 6 more cases reported and my own making 7, bringing the total number of cases of true diverticula of the stomach up to 38. Some allowance must be made for some of the earlier cases on account of the reports being somewhat incomplete. There may be other cases not reported, but they must be very few at the most. A condition which furnishes only 38 cases over a period of nearly a century and a quarter must be considered exceedingly rare. Textbooks and other works on surgery are for the most part silent on the subject. C. Nauwerck[22] in 1920 reported three cases, two of which represent all he found in the Chimnitz Autopsy material since 1898, which amounted to more than 15,000 autopsies.

Of the ten cases reported previous to 1917, not included in Secher's review, Silbermark[24] reported one case of diverticulum of the stomach in 1904. Lieblein and Hilgenreiner[23] another in 1905. Horrocks[24] reported a case of congenital diverticulum in 1907. Jones[24] had a case in 1909, and Little[24] another in 1910. Keith[16] reported two cases in 1910 at the cardia. Chas. Mayo[17] and Barjon[24] each reported a case in 1912. Dr. Geo. E. Brown[19], Miles City, Mont., in 1916 reported an interesting case, inasmuch as the patient with other symptoms vomited blood and on one occasion a large quantity of fresh blood. The findings in the X-ray examination resembled a penetrating ulcer on the lesser curvature, and with vomiting of blood ulcer seemed the probable diagnosis. However, at operation no evidence of ulcer could be found, but the pouching seen on the X-ray plates was present, and proved to be a true diverticulum.

The six cases reported since 1917 are as follows: J. Speese and P. G. Skillern[20] reported a case in 1917. Carman's[23] case, reported in 1920, was preoperatively diagnosed as duodenal ulcer. At operation the existing pyloric obstruction was believed to be due to a duodenal ulcer, and a gastroenterostomy was performed. The autopsy findings were a callous ulcer just proximal to the pyloric ring, and near by was a diverticulum. C. Nauwerck reported three cases in 1920[22], two of which were his own and contained pancreatic tissue. Mellon, Soble, Davidson, and Fowler[25], of Rochester, N. Y., reported a case in 1921. These authors seem to think that these diverticula should be operated when discovered in order to prevent future development of ulcer, or carcinoma. Then my own case in 1921, makes a total of 38 known cases at present.

Besides these cases of true diverticula, I wish to add in this connection two cases of functional diverticula of the stomach, reported by Quervain[18] in 1915. One appeared on the posterior and one on the anterior wall of the stomach. The latter is especially interesting because of operative findings. The patient was to be operated for gallstones and in the preliminary examination the X-ray plate showed a pouch or diverticulum which persisted in all positions. At operation the

stomach was examined to find this diverticulum, but the stomach wall appeared perfectly normal. But in pinching the anterior wall, the diverticulum suddenly appeared. Nothing was done with the stomach. The gall bladder operation was done, adhesions freed, and the operator was of the opinion that the pathology found probably was the cause of this peculiar contraction of the muscles of the stomach wall, producing the diverticulum. The patient made a good recovery and left the hospital on March 12. He remained free from symptoms, and an X-ray examination was made in May and another in June, and in both examinations the skiagram showed the same peculiar findings as before the operation. Quervain considered both cases as functional diverticula, and they are the only cases of that type I found reported in the literature.

Deaver[24] considers ulcer the most common cause of gastric diverticula. Personally, I am inclined to regard ulcer and carcinoma secondary conditions rather than etiological factors. Probably these ulcer cases should be included in Carman's "Accessory Pockets." Furthermore, these could not be true diverticula, as all the coats of the gastric wall would not be represented.

Nauwerck[22] found in his cases pancreatic tissue at the bottom of the diverticula and considered this an etiological factor, and proof that such a diverticulum has its origin in developmental disturbance. A number of other diverticula were reported which contained pancreatic tissue. Further investigation will be required to determine the relation this pancreatic tissue has to the etiology of so-called congenital diverticula.

Traction diverticula are more easily understood. An area of gastric wall becomes adherent to some surrounding tissue or organ and by traction the diverticulum is formed.

In a case reported by Tilger[2] the pylorus was adherent to a shrunken gall bladder. The diverticulum measured 2½ x 1½ c. m. In Hueble's[3] case the diverticulum was adherent to the pancreas and opened into the duct of Wiersung. Hanseman[4] reported a case in which the attachment to a sarcoma produced the diverticulum. Chustra's[5] case was caused by attachment to the scar following a laparotomy. Silbermark's[13] case, operated by Mosetag-Morrhof, was diagnosed as osteomyelitis or malignant growth of the left costal margin. The gastric pouch was opened into unawares. The general peritoneal cavity was found walled off by adhesions. This pouch was lined with mucosa, and a tube passed through the nose into the stomach came out through the abdominal incision. A tube was passed into the duodenum and the opening in the stomach was packed with gauze. A week later the case was re-operated, the stomach dissected free from the abdominal wall, edges of the gastric wall where the diverticulum had formed were trimmed, and the stomach closed, reinforcing the suture line with omental graft.

As to foreign bodies causing diverticula of the stomach very little evidence can be found. The only cases of this kind found in the literature were among the very early cases reported. We probably will have to admit the possibility of foreign bodies in the stomach causing diverticula, but Halla[21] reported cases of large schellak concretions in the stomach, and he found no change in the gastric wall. Halla also experimented on rats and showed that schellak concretions of considerable size produced no changes in the shape of the stomach or in the mucous membrane.

Other conditions such as trauma, obesity, asthenia, and overeating are mentioned as causes.

The symptoms of diverticulum of the stomach are in no way characteristic. In the cases reported the symptoms have extended over a period of two to twenty years. In most cases the symptoms have in some respects resembled ulcer. Brown's case was especially misleading, as his patient vomited blood on several occasions. Pain has been constantly present, probably due to food collecting in the diverticulum. Patients have complained of sour stomach, but very few show high acidity after a test meal. Vomiting has been present in most cases.

The diagnosis is very difficult, and commonly is not made until operation or at postmortem. Gastric or duodenal ulcer is the most common diagnosis made. We have come to believe that the symptoms of gastric and duodenal ulcer are rather characteristic, and none of the cases of true gastric diverticulum reported present the characteristic symptoms of ulcer, unless an ulcer has also been present. However, since we occasionally see ulcer without the usual characteristic symptoms, and since ulcer is such a common disease and stomach diverticulum is so very rare, one is much more inclined to make the diagnosis of ulcer rather than diverticulum.

We might think that a Roentgen examination would settle the diagnosis, but it too frequently

does not. In the X-ray examination one must differentiate between perforating ulcer and diverticulum, and there is seldom enough difference between the two conditions to make the diagnosis of gastric diverticulum. Carman's[7] "accessory pockets" look very much like a true diverticulum on the skiagram and on the screen. Occasionally an expert roentgenologist will make the diagnosis. But I believe that if a patient presents the usual gastric symptoms, with localized pain, with no tenderness over the area of pain (which is unusual in ulcer) combined with normal or low acidity after a test meal, and the X-ray examination shows a pouching out of the gastric wall, simulating a perforating ulcer, a diagnosis of diverticulum may be reasonably made.

Treatment must be adapted to suit the case. Excision, when feasible, perhaps is the operation of choice. If the diverticulum is too small to collect food, a gastro-enterostory will give satisfactory results. In some cases the diverticulum has been inverted into the stomach as is done in diverticula of the oesophagus.

Report of case: C. S., a man 43 years old, single, weighing 120 pounds, not well nourished, a farmer by occupation. His family history is negative, and rheumatism is the only disease he has had. Denies venereal disease.

This patient came to me May 24, 1921, with the following history: He was perfectly well and free from any gastric disturbance until three years ago, when he began to have pain high up in the epigastrium and a little to the right of the median line. At first the pain was only occasionally severe, when he would vomit, which usually relieved him. As time went on the attacks of severe pain with vomiting became more frequent. What he ate did not seem to make any difference. Sometimes he would have pain soon after the midday meal, but more commonly not until evening after going to bed. If the pain was at all severe he was sure to vomit. The vomitus never contained blood, but sometimes it contained particles like burnt crusts of bread, of very foul odor. There was not much change until three weeks ago, since which time he has had pain after most of his meals and has had to vomit every night, and he never was able to detect any food eaten for dinner in the vomitus. During the past three weeks the pain has become more severe and lasts longer. He has sour stomach all the time but does not belch any. He has lost weight and begins to show the effects of his trouble.

He had received treatment from two other physicians for asthma, with no relief of symptoms. It seems to me the most superficial examination could scarcely suggest such a diagnosis.

Physical examination: Pulse 70 and regular, blood pressure, systolic, 120; diastolic, 88; respirations, 18. Head negative except for some very poor teeth. Neck and chest are negative. Heart regular, apex inside of nipple line. Has a soft mitral murmur. Lungs are negative.

Abdomen is flat, but very rigid in upper region. No tenderness anywhere, not even where he locates the pain. No mass or abnormality can be determined. Examination otherwise negative.

Laboratory findings: Urine negative, white blood cells 6,000, hemeglobin 80.

Gastric analysis after Ewald test breakfast:

45 min. free Hcl. 25	Total Acidity 40
60 min. free Hcl. 20	Total Acidity 32
80 min. free Hcl. 20	Total Acidity 34
100 min. free Hcl. 20	Total Acidity 34

No blood in stomach contents and no blood in the stools.

X-ray examination: A pouching out of the lesser curvature 3 c. m. above pyloris simulating a perforating ulcer was found. Otherwise the gastro-intestinal tract was negative.

Operation May 31, 1921: Abdomen was opened through an epigastric median incision. The gall bladder, duodenum and appendix were examined and found normal. The stomach was then examined and the pouch, as shown in the skiagram, was found free from adhesions and inflammatory changes. On inspiration this pouch would become distended. I recognized the fact that I was dealing with a diverticulum. No other evidence of trouble could be discovered, after careful examination of the entire stomach. This diverticulum was so located that excision seemed feasible, so I excised it and closed the stomach in the usual way. This diverticulum measured 2 x 2½ c. m.

Pathological report: "Microscopical examination of the wall of gastric diverticulum, shows the mucosa with its covering epithelium intact. Throughout the Tunica Propria, a number of round cells, and a few polymorphonuclear leucocytes are found. The sub-mucosa presents no marked changes. All three layers of the muscularis are represented, the oblique is quite well developed. The circular and external layers, how-

ever, are apparently but rudimentary, forming but a thin and irregular or interrupted stratum. Throughout the muscularis is slight round cell and polymorphonuclear infiltration. Vessels of subperitoneal region are moderately distended. The entire thickness of the wall of the diverticulum is approximately 0.5 c. m.

The patient made an uneventful recovery, and left the hospital June 16. I saw the patient four times during the following nine months, and except for a mild degree of gastric acidity he remained perfectly well. He had a good appetite, digested his food well, and gained in weight, and never had any recurrence of his pain.

On February 22, 1922, nine months after operation, I had another X-ray examination made, and the stomach wall was perfectly smooth and normal where the diverticulum had been removed.

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FRACTURES OF THE ANATOMICAL AND SURGICAL NECKS OF THE HUMERUS.*

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Shortly after my location in Appleton, Wisconsin, some twenty-two years ago, it was my misfortune to defend a claim for damages in the treatment of fracture of the surgical neck of the humerus with dislocation, instituted by a patient against my associate and myself. Since that time my interest in fractures of this nature has not waned.

COMPARATIVE FREQUENCY OF VARIOUS FRACTURES.

I. W. Brewer[1] states that in the demobilization of 10,287 men, there were noted 665 old healed fractures, i. e., 64.7 per 1,000. Those that head the list are:

Humerus	101
Colles	98
Phalanges (fingers and toes)	73
Clavicle	59
Tibia	55
Femur	52
Pott's	40
Forearm	32
Metacarpal	32
Radius	31

E. G. Slesinger,[2] reporting on a consecutive series of 458 cases of fracture of the upper limb treated as out-patients, states that of a total of 730 patients, 458 or 62.6 per cent were of the upper limb. Fractures of the upper end of the humerus, 19 cases. Two were associated with dislocation of the shoulder joint. Average age was 51 years. In 11 cases the fracture was impacted.

The humerus is one of the most important bones in the body and is so built that it is capable of a wide latitude of motion in nearly all directions at its upper end. The head is well protected with strong powerful muscles which hold it closely and firmly in the glenoid cavity. The head of the bone is also composed of strongly trussed cancellous bone, affording in the tuberosities firm attachment for ligaments, tendons, and muscles.

*Read before Outagamie County Medical Society, Appleton, Wis., Dec. 22, 1922.

FRACTURE OF THE ANATOMICAL NECK OR INTRA-CAPSULAR FRACTURE.

Production:

Rose[3] and Carless state the production is usually due to blows or falls on the shoulder, less commonly indirect violence.

Scudder[4] states its occurrence is rare and usually occurs in the elderly.

Stevens[5] states fracture of the upper end of the humerus are extremely common. Usually the results of a fall by middle-aged or elderly person with the arm in abduction and internal rotation.

Speed[6] states that hyper-abduction and indirect violence are the causative factors in many shoulder injuries. Because of tension on the axillary part of the capsule, abduction of the arm is permissable to a degree only slightly more than a right angle, if the scapula is fixed. If the scapula is rotated in the abduction movement, further abduction of the arm is possible, but when the limit is reached and the force acting continues, some part of the shoulder structures must give way. Thomas and many others demonstrated that the first structure to give way in hyperabduction at the shoulder is the axillary portion of the capsule. As the action continues the tuberosity strikes against the acromion, and the head is forced out of the glenoid cavity and the arm slides into a position of subcorocoid dislocation as it comes back towards the body. Other lesions may accompany the condition, a laceration of the capsule with no dislocation of the head or a fracture of the surgical neck with or without capsule tear or dislocation.

Slesinger states in all cases the mechanism of fractures was a direct fall on the point of the shoulder, presumably fracturing the bone against the glenoid cavity by leverage.

Pathology:

The pathology of fractures of the anatomical neck may vary considerably. The shoulder becomes swollen from effusion of blood where the capsule is intact. Crepitus may be felt on rotation. Generally the upper fragment is not totally detached but remains connected with the rest of the bone by a few shreds of capsule and thus necrosis is prevented. There is usually some shortening.

The upper fragment may be impacted into the lower fragment and thereby produce a marked deformity of the head of the bone as a result. This condition may occasionally be detected by palpation from the axilla.

If the detachment is complete the small upper fragment may be rotated on its own axis and even dislocated in the axilla.

As the repair occurs mainly from the inferior end and owing to the difficulty of apposing and immobilizing the fragments considerable callous formation may ensue.

Diagnosis:

As the fracture is intracapsular it will lie wholly within the capsule of the joint. Deep palpation under anaesthesia shows thickening of the neck of the bone, where impaction occurs crepitus will not be felt. There is much pain on moving the shoulder. Abnormal mobility may be felt high up the shaft close to the head of the bone. Shortening of the arm may be present but more frequently there is no shortening.

There is functional impairment of the arm in proportion to the displacement of the fragments.

Duga's test is of great value and which consists in the surgeon placing the hand of the injured arm on the opposite shoulder and then pressing the elbow against the chest wall. If possible to so do no dislocation is present, and if it cannot be done dislocation may be diagnosed.

Rotation of the arm with pressure over the head may reveal great tenderness and elicit crepitus. Frequent and forceful manipulation is to be deprecated. A skiagram is of the utmost value and must be obtained.

Treatment:

When there is but little displacement and when the head is in good position or where impaction has occurred the application of a simple bandage to raise the elbow and keeping the arm to the side is quite sufficient. Rest of the shoulder is indicated to avoid excessive callous formation.

Massage may be begun after the 4th or 5th day and passive motion a short time later. This period may be prolonged gradually and caution observed not to produce pain.

In the more serious cases the shaft and neck should be abducted and rotated to the degree where they will meet the head and this position maintained by the application of a proper axillary pad. A shoulder cap made of moulded leather, cardboard, or molded plaster, the splint extending

up the entire arm on the head should then be applied.

In some cases extreme abduction and elevation of the arm to meet the dislocated head may be necessary. Confinement in bed and the application of a weight may become necessary. In some few cases all attempts at apposition of the fragments may fail and removal of the head may become imperative.

Before proceeding to this radical treatment an attempt should be made with pegging of the head by means of ivory, bone or metal nails. It may be possible to attach the head to the neck with Kangaroo tendons. Open operation should not be instituted until all acute symptoms have subsided which is usually from five to seven days following the injury.

Fractures of the Surgical Neck:

Scudder defines this fracture as follows: "Any fracture below the epiphyseal line and well within the upper fourth of the shaft may be regarded as a fracture of the surgical neck of the humerus. As fractures of the anatomical neck occurs mostly in the elderly and separation of the upper humerus epiphysis in youth, fracture of the surgical neck has its frequency in those passed middle life and is the common fracture of the upper end of the humerus."

Speed states, "This injury results from direct violence or severe indirect violence and torsion on the arm or elbow with the muscles above in tense contraction." The shaft is drawn inward by muscular attachment of the pectoralis major and teres major and lattisimus dorsi, while the biceps, coracobrachialis and deltoid draw it up."

Pathology:

Fractures of the surgical neck may occur without displacement. They may occur with displacement, the head remaining in the glenoid cavity. The head of the humerus may be displaced. In dislocation of the head from the glenoid cavity presupposes a rent in the capsule. The fracture may be transverse, oblique, or irregular with large fragments irregularly displaced in front or back. As the bone fractures below the tuberosities to which the muscles are attached the head is usually rotated and somewhat abducted. The arm may be visibly shortened.

The injury may result in serious damage to the vessels and nerves in the arm. The wound may be open with exposure of these important structures.

Examination:

When the head of the bone is still in the glenoid cavity there is no loss of fullness of the shoulder, although there is depression below, unless it is obliterated by extensive hemorrhagic effusion. Shortening may vary from one to two inches.

The elbow is directed away from the side, and the axis of the lower fragment is upwards and inwards.

Crepitus may be obtained by extension and rotation with the surgeon's finger at the neck of the humerus. In cases of impaction of the fracture the head moves with the shaft. In this case the signs are much less evident, only slight shortening or displacement may be present. The pressure of the upper end of the lower fragment against the brachial nerves may cause severe pain. The integrity of the circumflex nerve is frequently jeopardized as it winds around the neck of the bone close to the site of the fracture. The diagnosis is based upon history, immediate disability, deformity and the invaluable use of the X-ray. Stereoscopic X-ray should be used as soon as possible as hemorrhage and effusion may add to the difficulties of a correct diagnosis.

Treatment:

The treatment varies according to the pathology of the fracture. Accordingly treatment may be dependent upon the following conditions:

1. Simple fracture without displacement and fracture with impaction of the fragments.
2. Shortening of the shaft due to over-riding.
3. Rotation of the head fragment.
4. Inability of apposing fragments.
5. Compound fracture with displacement.
6. Fracture of surgical neck with dislocation of head.

When there is impaction and the fragments are firmly held together all that would be necessary would be an axillary pad and a shoulder cap whilst the arm is kept to the side and the hand well supported by a sling. Coaptation splints may find ready use in this condition. Middeldorph's triangle may also well be used. In the second class when the fracture is oblique and fragments overlap the patient must be put to bed and continuous traction made in an abducted position

of the limb. An extension apparatus is applied to the arm from the elbow upwards and a weight of from five to ten pounds attached, the cord passing over a pulley at the side of the bed. If need be counter extension may be made by a sheet passed around the body.

Sir Robert Jones[7] states, "Fractures through the shoulder joint and through the surgical neck of the humerus require no splints. The elbow should be slung at right angles, and fixed by a broad bandage to the side. The dressings would probably replace the usual pad in the axilla, and which should never be bulky. Shoulder shields are unnecessary and cumbrous. The patient, when practicable, should be treated in the upright position, and should have his head and shoulders well propped at night."

Frank E. Peckham[8] in studying causes of fracture of upper end of the humerus, noted that the position which would naturally hold the fragments in apposition was with the arm at the side and the forearm neither internally nor externally rotated but straight out in front.

In the Journal A. M. A., July 1, 1911, Dr. A. A. Crane[9] described a splint with screw attachments which created extension and counter-extension by pressure against the axilla at one end of the arm, at the other end against the forearm held at right angles.

Dr. Peckham has modified this, so that the forearm in the position described such fractures are body is held out in front.

He describes cases to demonstrate that with the arm in the position described such fracturres are reduced, and thus treated in an ambulatory manner.

Cusatis[10] relates that there were recently at one time in his service three children with this fracture. Two healed under reduction and extension. but in the third case the boy was 16, and these measures were supplemented by two nails driven to cross in the depth of the bone. This insures such solid fixation that passive movements can be begun the second or third day. It is rarely possible to suture the bone in these cases, and the nail treatment is simple and certain and a great relief for the patient.

Jos. A. Blake writing upon the treatment of fractures of the humerus by suspension and traction states, "this treatment is easy to apply. No splints are used. Immobilization is achieved by traction aided to a certain extent by the way in which the limb is suspended. Although the fragments are efficiently immobilized, yet a certain motion is obtained at shoulder and elbow, which explains the good functional results obtained."

"The Balkan frame is excellent, but a gallows frame (consisting of a post and arm) is sufficient. (Article gives details in setting up apparatus, slings and pulleys). In fractures at the upper part of the shaft, particularly those above the insertion of the pectoralis major, the proximal fragment takes a position of extreme abduction. The distal fragment must be brought in line with it. The pulley over which the traction cord runs must be placed at right angles to the bed, and in some fractures of the surgical neck even as much as 130 degrees."

"The angles in which traction must be made is determined by repeated X-ray examinations (portable apparatus)."

Walter Briekner[12] has written of a method whereby slow continuous abduction traction for shoulder disabilities may well be employed.

Brickner advocates the abduction of the affected arm to a position where it can be comfortably borne which is then fastened to the head of the bed by a muslin bandage about the wrist. The head of the bed is elevated on blocks and as the patient's body gradually slides downward there is greater abduction and elevation of the member. This method may well be used in the after treatment of these cases.

In those cases where the head fragment is badly rotated and the shaft has to be placed in extreme abduction and elevation to meet it, the patient must be kept in bed, extension applied over the whole length and weight attached.

Where open operation for either plating or implantation of autogenous bone transplants is necessary the results in this region are usually excellent. Care must be exercised respecting any injury to the circumflex nerve. As a rule, no matter how comminuted the fragments may be it is possible to fix them perfectly together. In those cases of fracture of the surgical neck with dislocation of the head when unreduced the displaced head of bone may remain loose or union may occur with much deformity and the production of many adhesions which may involve the vessels and nerves and lead to serious after trouble in the limb. Attempt should therefore be made to manipulate the head

of the bone back through the rent in the capsule without unnecessary delay. This should be done while steady traction is made upon the shaft of the limb either downwards or at right angles to the trunk. If successful the after-care of the fracture does not vary from the usual procedure. If one is not able to accomplish this, operation is indicated. My personal preferance is to expose the parts from the front, replace the head, plate or wire the fracture or with bone screws, producing an accurate end to end union. In some cases it may be necessary to remove some portions of the comminuted fragments. Some years ago McBurney had devised a special hook to facilitate the open reduction of these cases.

Magnuson[13] and Coulter report the following:

"Patient fell striking left shoulder on cement floor. X-ray revealed fracture surgical neck with head displaced downwards and lower end of this fragment abducted.

Through operation it was impossible to reduce the fracture. Bone was exposed on second day through an anterior deltoid incision, clots evacuated, fracture reduced by traction and abduction of lower fragment. Some comminution was present, so that exact approximation was impossible, as it is often the case in this type of injury.

Ivory screws were used instead of metal, because they do not cause pressure necrosis of the surrounding bone and are eventually absorbed. They are much stronger than beef bone screws and as well tolerated. After the screw is inserted, its ends are cut off flush with the cortex leaving nothing protruding to injure or irritate the soft parts.

Arm is fixed with adhesive plaster, with a pad between the humerus and ribs to prevent movements while patient was recovering from anaesthetic. Next day adhesive was removed and very gentle passive motion instituted. Stitches were removed on the 7th day. Arm could then be brought to right angles without much pain. Patient left hospital in ten days.

The firm fixation does away with the necessity of long immobilization, which in the shoulder joint is much more serious than a fracture in itself, which has been properly replaced."

F. H. Albee[14] classifies cases of loss of head and upper portion in two groups.

A. Those cases in which the muscles have not been injured to such extent as to rule out any possibility of obtaining a movable, functioning, reconstructed shoulder joint. In cases of this type the humerus is restored by the head and upper portion of the patient's fibula.

Where the muscles are practically uninjured, an attempt is made to preserve their individual insertion upon the fibula which is used to restore the humerus loss. Where it is impossible to make an individual separation, the muscles are attached en masse to the bone which is used to restore the humerus.

B. In this group the musculature has been so far destroyed as to render impossible any hope of restoring shoulder joint motion. In this type, a posture of the humerus is secured in relation to the scapula, but an arthrodesis of the shoulder joint, which brings about a compensating function of the scapulo-thoracic motion to replace function by shoulder joint motion which has been lost."

Discomforts in the accomplishment of this function should be avoided. No hard and fast rule can be laid down as to when and how much passive motion may be applied. Each case is a law unto itself.

Robert Jones states further, "When ankylosis is to be expected after a bad smash and suppuration of the shoulder, and opportunity is afforded for continuous treatment, the arm should be kept abducted slightly forwards and rotated slightly inwards. This assures a much extended range of movement at a more useful radius, such range of movement being brought about by the action of the scapula.

"The arm should be abducted to about 50 degrees. The elbow should be slightly in front of the coronal plane of the body so that when it is at right angles and the forearm supinated, the palm of the hand is towards the face. The arm is placed in this position while the scapula retains its normal position of rest.

Reasons: If the arm be correctly placed, the hand can be brought easily to the mouth by bending the elbow. Further, the humerus being fixed to the scapula at the angle indicated, the arm can be lifted to a considerable height by scapular action; moreover, pockets can be reached, the hair brushed and the patient can pick up a plate or cup without spilling the contents. It is obvious that the arm should never be kept to the patient's side if ankylosis is feared for functional results would

be most unsatisfactory. The simple movements of every day life would be seriously restricted.

Prognosis:

Scudder states, "In young subjects, a useful arm results. If the surgeon persists in efforts at retention and uses passive motion early. Gradually the movements of the arm return and to a surpassing degree."

"In people past middle life there is usually a little shortening of the upper arm and impairment of some movements as abduction and external rotation."

"In individuals over 50, a useful but not as strong shoulder results."

While prognosis as a rule is usually good there may persist some shortening of the arm or limitation of shoulder movement. The movements of the scapula however may ameliorate this defect to a considerable degree and the ultimate function should be reasonably good. Much is dependent upon the personal after-care. Many weeks of patient attempts at use is required. It may be necessary to alter the shoulder splints and apply fresh ones. Pressure points should be carefully avoided and pressure removed. Dressings may necessarily have to be changed several times. Early massage and early passive motion should be instituted after the fragments have become sufficiently immobilized and thereby prevent undue ankylosis.

As my paper deals with fracture of the upper end of the humerus I cannot well ignore the condition of separation of upper epiphysis as it occurs in children and young adults.

The upper end of the shaft is somewhat conical in shape, the apex of the cone fitting into depression in the middle of the epiphysis, the lesion therefore usually follows the line of the epiphyseal cartilage. The displacement is often incomplete, partly from the conical projection attaching itself to the under edge of the epiphysis or more frequently from the persistence of a periosteal bridge on the outer and posterior side. Consequently the head and tuberosities would lie in the upper fragment. In many instances the displacement is very slight with no lateral movement demonstrable. Crepitation may be absent on account of the soft character of the bone at this site. The whole neck usually feels full with a prominence on the forward and inner aspect of the shoulder. The softness of the crepitus distinguishes it from fracture. The usual signs of a dislocation are absent.

The recognition of this pathological condition is of vital importance. If replacement of the head is not made necrosis may ensue and interference with the normal growth of the bone becomes a serious factor. It therefore becomes necessary to replace this fracture with its normal relationship for obvious reasons. Reduction may be accomplished by manipulation with the arm in abduction and firm extension combined with rotation to bring about a successful termination in the evidence furnished by the skiagrams. This, as stated previously, is of the utmost importance in a lesion involving the upper arm. In some smaller number of cases operation (open) may become necessary to correct and restore the parts to their normal relationship. The treatment of this condition after reduction differs in no way from that advocated for fracture of the neck.

Of the twelve cases of which I have records and treated by me personally there are two of particular interest and which I am desirous of reporting briefly.

Case 1. B. B., age 51 years, January 12, 1915, while in the employ of W. T. L. H. P. Co., at Gas Plant, caught his right arm in revolving shaft and was immediately transferred to St. Elizabeth Hospital. Upon examination there was found a large gaping wound with complete exposure of the axillary contents; the pectoralis major muscle torn from its insertion to the humerus. The bone was fractured at the surgical neck in several fragments with pronounced displacement. There was a dislocation downward and forward of the right shoulder. The patient was in pronounced shock. Soon after reaction had occurred from the shock the following operative measures were carried out.

1. Suture of tendon pectoralis major tendon to shaft of the humerus. Closure of axillary space. Administration immunizing dose of anti-tetanic serum.

2. Six days later open reduction of fracture and application of a long Lane Plate.

3. Four weeks later under a third general anaesthesia successful reduction was made of the dislocation. Passive motion with massage now instituted.

4. Primary union with a permanent disability of less than five per cent followed. The patient

resumed his usual employment six monhts later from the day of injury.

Case 2. B. G., age 41, employee Interlake Pulp & Paper Co., was injured Dec. 1, 1921, when left arm was caught in a revolving belt. Following injury he was taken to St. Elizabeth's Hospital and the following conditions found:

A compound fracture with displacement of the left humerus at the surgical neck with opening upper lateral external surface; a fracture, supracondylar, same humerus with no displacement; longitudinal fracture left ulna upper third, no displacement.

Following examination injured arm was placed in a Thomas splint in abduction and traction applied. It was impossible to reduce the displacement, therefore six days later open operation was made and interposed muscle found impeding reduction of fracture of the surgical neck. A Lane plate was applied. A long lateral splint of plaster was applied over shoulder and down over hand with forearm flexed at right angles, half way between pronation and supination. Upon January 12, 1922, owing to limitation of movements of left shoulder, elbow, wrist and fingers, patient was placed under anaesthesia and active motion instituted. This was only partially successful.

Skiagraphic notes made at this time revealed an active callous formation. A skiagram taken six weeks later showed a moderate osteoporosis of practically all the bones of the left upper extremity.

Improvement now continued and the patient contemplated returning to duty May 4th when upon the evening of May 3rd a fracture occurred spontaneously below original fracture of the surgical neck.

An open operation was now done and two bone transplants, one placed intramedullary and the other externally in the gutter, prepared. The outer transplant was held firmly in place with Kangaroo tendons.

Healing occurred by primary intention and progress appeared to be satisfactory. Early massage and motion was instituted. A recent examination reveals union of the humerus, but a marked thickening of the bone on the internal lateral surface of the nature of an exostosis at the site of the original fracture of the surgical neck, also a marked osteoporosis of the shaft of the humerus in its lower half.

The outcome is still problematical.

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MEDICAL MEN AND INSTITUTIONS OF PETROGRAD IN 1917 AND 1922.[1]

BY MICHAL M. ZLATOVSKY,

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Petrograd in 1917 was a beautiful and rich metropolis of 2,000,000 people, with institutions for commerce, education and culture, and a varied social life. In medicine, it was one of the most richly endowed of Europe. Here was the distinguished military medical academy, which graduated many renowned professors—Mechnikow, Botkin, Pavlow and others. It had a medical college exclusively for women, an institute for physicians who went there to further their medical knowledge, an institute for experimental medicine with Prof. Pavlow at the head of it, and a generous curriculum.

Safeguarding the health of Petrograd's inhabitants, were 27 hospitals, more than 100 dispensaries and private clinics, among them the renowned gynecological institute of Prof. Otto. The city could number 5,000 doctors and professors of medicine, and one hundred establishments that dispensed drugs exclusively.

Five years have passed under the rule of the Bolsheviks, and what are we today? Numerically,

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*Read before the Douglas Co., Wis., Medical Society, Dec. 6, 1922. Dr. Zlatovsky, until four months ago, was a physician of high rank in Petrograd, Russia. His presentation of medical conditions in Russia before and after the Revolution, is, therefore, authoritative.

the medical academy and the University for women have at present more students than at any time in their history, but the application of the students to their studies is not nearly as thorough as before. In fact, there is no comparison. The Bolsheviks have declared that the medical colleges are open to all, that no previous training, no diploma is necessary. And that besides being free of any cost, each of the students would be assured a livelihood—that each would be provided with rations and spending money. The result was that the medical colleges were flooded with both men and women, a great many of whom did not have any previous training at all, and so sweeping and assuring was the declaration of the Bolsheviks, that some of the men and women who began studying could not even sign their own names.

This mob filled the grounds and buildings with shouts, laughter and hilarity. They were practically all communists, and of the proletariat, as they termed themselves, and suspected the instructors of being counter-revolutionists and opposed to Bolshevik rule. The students selected committees among themselves to watch the movements of their teachers. The result was that true academic spirit was made impossible.

Besides, it was soon plain that the Bolsheviks could not keep the rosy promises of not only food, but spending money besides, and the result was that the students sought other means to gain a livelehood, such as speculations and physical labor. Lectures, which did not hold any interest for most of them, were not attended. A part of the professors had fled from Russia, a part of them died from starvation and the prevalent diseases of the time, and the remainder, starved and weakened, were compelled to seek other means of employment besides the classroom, and often it was hard labor. The Prof. Pavlow once told his classes that he could not continue his world-famed experiments with animals because chopping wood and other hard labor had robbed his hands of their skill. The Prof. Kravakow, renowned pharmacologist, worked on a common tilled land plot, several miles from his home, carrying his crop of potatoes home on his back.

The academy and the university were not heated, the water pipes burst, there was no gas, and electricity was only allowed a few hours each day because there was insufficient fuel for the generators. The laboratories were empty, for their contents had been sold by students to speculators, the expression commonly used after the revolution, when referring to business men. Of course, learning was made impossible.

The experimental institute had no intellectual strength. The animals used for experiments died for lack of food. The head of the experimental institute, Prof. Pavlow, who received an offer from the Rockefeller Institute to come here, and received offers from England and other countries, was not permitted to leave Russia by the "tcheka," or the extraordinary committee, which administered the affairs of Russia. Even the appeal of Maxim Gorky to the administration on behalf of Prof. Pavlow, who said he could not continue his work in Russia, failed to change the resolve of the "tcheka" not to permit him to leave. It was my good fortune to have been often in the Professor's company, and knew of his hopelessness for improvement.

From 1917 to 1920, the institute for the furthering of the education of physicians was closed. The doctors were too much concerned with getting bread and too impoverished to continue their studies. Last winter, the Bolshevik regime drafted 1,000 doctors, most of them students who attended the University during the three years of open-wide education, to give them more thorough training than they had received. They were allowed during this time the following rations: one pound of bread a day and for the entire month: two pounds sugar; four pounds of herring; and two pounds of salt, regardless of whether they had a family or not. As these rations were distributed irregularly, they could not devote their time and energy to their studies exclusively. So, to get more food, the stronger of them worked as stevedores on the wharves and at other hard labor, while the weaker ones sold newspapers, stockings and other articles on the streets of Petrograd. With the class rooms two or three degrees centigrade, and practically empty, the professors had no inclination to lecture. Then, the student doctors were sent to the devastated parts of Russia to give medical aid to the inhabitants, whose ills were lack of food. Characteristically, the Bolshevik regime gave each of these doctors 1,000,000 rubles for traveling expense, when it took two and one half millions to pay for the dray to the station.

Of all the hospitals in Petrograd, there remained only six when I left last May, and they

were in terrible circumstances. The temperature of the rooms was seldom higher than two degrees. The operating rooms were unclean, and there were no medicines, or clean dressings. The customary ration for the patient was a half pound of black bread and soup from herring. The nurses, hungry and worn out, did not care for the sick. The attendants, mostly ignorant and starved often stole the food of the patients, and treated them cruelly. An acquaintance of mine, who was a patient at Botkin's hospital for contagious diseases, was beaten by an attendant because she required more attention than usual, and I could see the marks of the cruelties. The death rate in the hospitals was very high and the sick would not go there, with the result that the spread of contagious diseases increased. The private clinics were robbed at the time they were nationalized, and today they are closed because the government has no means to operate them. Only a few drug dispensaries remain, and those few are practically empty. It is a fact that the drug stores did not even have castor oil or boric acid. Now, you can understand the position of the Russian doctor, who could not prescribe medicines, and certainly could not order a diet or recommend a rest for his starved and toiling patients.

Still worse is the political and material conditions of the physicians. The Bolsheviks have declared that they along with the other "intellegentia" are bourgeousie and counter revolutionists. Many were killed, such as the famous Dr. Shingarow, who, while sick in a hospital, was put to death by a gang of sailors, and Dr. Grigorien wantonly killed by a group of soldiers. In the Central Hospital of the Red Army where I was drafted to serve, Dr. Gramatchakow, the head of the hospital committee which examined convalescent patients, and Dr. Gelfin were both shot without trial on orders of the "tcheka" as a result of false charges of a gypsy woman and a man of low character, who, after a quarrel, accused one of the doctors of making an artificial wound on his leg to prevent being drafted into the service, and the other for issuing a discharge certificate. Later, the man and woman were also shot. Other medical men were confined for years in prison, including Prof. Fyodorow, a noted surgeon.

Medical societies were forbidden and their funds for the benefit of the widows and orphans of doctors were seized. In their place, the Bolshevik regime created the "Union of Medical Sanitary Workers," and besides physicians equal membership was extended to nurses, the hospital watchmen, its janitors and firemen, its attendants and others engaged in minor employment about a hospital.

Over the doctors were placed ignorant, overbearing fellows, termed commissars. They often interfered with the physicians and made their life unbearable. Clashes between commissars and physicians were frequent but always to the advantage of the commissar.

The material conditions of the doctors was even worse. Private practice was prohibited. They were permitted to work only in hospitals and other places under the control of the Bolsheviks. Given insufficient amounts of food, they were compelled to seek other employment. They became easily susceptible to disease and in the winter of 1920, about 200 physicians died. In the hospital where I was employed 26 of the 50 physicians were afflicted with typhus fever and six of that number died. When the epidemic waned in Petrograd, the physicians were sent to those districts where the fever was still raging, disregarding the personal welfare of the medical men or their home ties. In 1920, one hundred and fifty physicians were sent from Petrograd to the Bashkerier republic in the Ural Mountains, where the pestilence called "Tchuma" or the Bubonic plague, raged. It was said that for each physician that was sent to this republic, which was not under the control of the Bolsheviks, they received one wagon load of flour and five oxen.

A well known physician had offices and living quarters on the fourth floor of a wooden dwelling. In one room he kept a goat, in one room food for it, and he lived and had his office in the other two rooms. His neighbor bore with the goat but objected whenever the goat was taken down four flights of stairs to be exercised.

Now, conditions have changed. Doctors are permitted to have a private practice, and instead of rations are given money. But the advantage is small, for the residents of Petrograd are so poor that they can not pay for the services of the physician. And the money itself is worthless. In February, 1922, my wages for that month from the government were 400,000 rubles and the price of a pound of sugar was 500,000 rubles; a pound of butter, 700,000 rubles, a pound of bread, 30,000

rubles. In March my salary was doubled, and I was getting 800,000 rubles a month, but the prices then were: sugar, 1,000,000 a pound; butter, 1,200,000 a pound; and bread 60,000 rubles a pound. In May, the doctors fee for a visit was usually 1,000,000 rubles, but he had to make 40 visits to buy a pair of shoes and one hundred and twenty visits to buy a suit of clothes. You can find doctors, who carry soap, thread, shoe laces, stockings, etc., for sale in the same case that they formerly carried their instruments. There are doctors who have opened various stores, and others are clerking.

To encourage attendance of doctors, the "Union of Medical Sanitary Workers" offered ten pounds of apples and forty pounds of potatoes to each of the doctors who attended one meeting in the summer of 1921. In the winter of that year, each of the doctors in the service of the government was given a sort of bonus, consisting of a summer hat, a bed sheet, a towel, and a couple of shirts. Once in the winter of 1920, the Red Cross of Norway gave to each of the doctors of Petrograd 20 pounds of fish, a half pound of tea and two pieces of soap. Doctors slept standing before the distributing place of the Red Cross in Petrograd that they might be there when the distribution began in the morning.

It is hoped that America, which is taking the greatest interest in the terrible condition of Russia will come to the aid of the Russian doctors through the associations of their colleagues in America. All hopes of the Soviet regime are in America. The doctors of Russia are in need of food and clothes. They are in need of medicine, instruments and medical literature. And the sooner help comes the better—for time lost means all lost.

SURGERY FOR THE TUBERCULOUS

The following fundamental facts, which are assumed to be established and acceptable, by those who have had the largest opportunities for studying tuberculous diseases in man and who know the scope and limitations of surgery as a remedy for such diseases, are presented by H. G. Wetherill, Denver (*Journal A. M. A.*, Jan. 6, 1923). (1) Tuberculous patients, particularly those with pulmonary tuberculosis are *always* "substandard" surgical risks, and must *always* be so regarded when surgical measures are contemplated for their relief. (2) The delicate "balance of power" existing between the disease and the resistance is easily disturbed, and the scales may be turned unfavorably by surgical operations through (*a*) exposure; (*b*) shock; (*c*) loss of blood; (*d*) undue prolongation of an unwisely chosen anesthetic; (*e*) inspiration or other forms of pneumonia following anesthetics; (*f*) lowered resistance and diffusion to new and previously uninfected fields; (*g*) postoperative mixed infection; (*h*) injudicious use of so-called "drainage;" (*i*) failure of a proper appreciation of the paramount importance of physiologic rest. (3) A large majority of those who are doing general surgery have failed to appreciate the limitations of surgery in the treatment of tuberculosis, or the special precautions required for such surgical operations when necessary and justified, and in these particulars the general surgeon has much to learn from the orthopedic surgeon. (4) A careful, differential, bacteriologic study is essential to a complete understanding of the surgical requirements and limitations of suspected tuberculous abscesses and effusions, and ordinary open operation and drainage should not be employed till this investigation has been made. Wetherill pleads that tuberculous patients may aways be regarded as substandard surgical risks, and that they require special study and special consideration in every way when an operation is deemed necessary for them. In particular, the choice of the anesthetic, the manner of its administration, the time over which it is used, and the preparation and after-care of the patient are important determining factors in procuring good results. Every possible precaution should be employed to prevent postoperative mixed infections, and to avoid diffusion and dissemination of the disease. Given a tuberculous invalid with an empyema, an ischiorectal abscess, broken down or suppurating lymphatic glands, a tuberculous testicle or kidney, or a peritoneal tuberculosis involving the fallopian tubes or appendix, a timely, carefully considered and dexterously performed surgical operation will bring about results absolutely unattainable by any other means.

TREATMENT OF ABDOMINAL PAIN DUE TO URETERA OBSTRUCTION.

When the pain is caused by ureteral stone, A. J. Crowell, Charlotte, N. C. (*Journal A. M. A.*, Sept. 30, 1922), states, it is relieved by removal of the stone. Pelvic lavage, in cases of pyogenic infections, will prevent kink in the early stages of infection and, when kink occurs, lavage will be very beneficial in many cases. Kidney fixation, in cases of nephroptosis, is about the only procedure from which may be expected beneficial results. When the kink is due to aberrant blood vessels, they should be ligated and severed. Beneficial results may be obtained, when the symptoms are produced by adhesions, by breaking up the aberrant blood vessels and freeing the ureter. In a case of two right-angle kinks in one ureter, excellent results followed the use of the retention catheter for three days. Best results may be expected from this plan of treatment when the infection has not been of long standing, and when the ureters are not greatly dilated.

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EDITORIALS

YOUR LEGISLATORS.

THERE are one hundred and thirty-three members in the two houses of Wisconsin's legislature. Two of them are physicians.

These members of the senate and assembly serve for close to six months for $500. That is a financial sacrifice. They serve in long committee hearings and often in night sessions. What is there in it?

When the session is over the members will return to their homes with only the satisfaction of having done what they each considered was best for their constituents. Representing many professions it is impossible for each and every member to be well acquainted with the many subjects that are under discussion. To some degree they depend upon the recommendations of the various committees. But to a far greater degree they rely upon the expressed desires of the people at home.

Personal letters from those at home who are particularly qualified to speak on some subject are really appreciated by the legislators. It is just as important that you perform this type of service for your representative as it is to cast your vote.

What do you think of the Basic Science bill?

Do you believe that the people are entitled to the slight minimum of assurance that those who set up to treat their ills have the elementary knowledge which would enable the making of a diagnosis? Are you in favor of the Basic Science bill 130 S that seeks to establish this standard for the future? Write your representative. (Read letter of Dr. T. H. Shastid, Superior, under "Correspondence," this issue).

ARE YOU INTERESTED?

THERE is no class of men who find it more imperative to keep up with the latest developments in professional lines than the members of the medical profession. Clinics solve the problem but for a comparative few. Programs of society meetings are necessarily limited. New books and periodicals of unquestioned authority offer the only method of keeping up with the latest discoveries for the vast majority of our profession. But such books as are of real value are generally costly.

With this in mind your Executive Secretary has made a study of the problem and offers the following suggestion:

The Wisconsin Free Library Commission at Madison is willing to purchase texts with the advice of the Medical Editor of this Journal. The Journal could donate to the Commission the books it receives for review purposes. Arrangements could be made to borrow from some established medical library in the state such older books as may be requested.

With this as a basis the Secretary could publish each month a list of the new books added. To obtain one of these books you would simply address a letter to the Commission at Madison and the book would be yours for three weeks. Your only expense would be the return postage. No book would be loaned to anyone not a licensed physician or surgeon.

Do you want this service? To determine whether a sufficient number believe in this project so as to warrant the state in undertaking the additional expense you are asked to express your opinion in just a note to your Secretary. If you want this service with its future possibilities it can be put in operation in a short time and the Journal will list the books then available. Are you interested?

HYGEIA: ARE YOU FOR IT?

THIS month there will appear on the news stands the first number of the medical magazine for the people—*Hygeia: A Journal of Individual and Community Health.* This journal wil be a departure in scope, in character and in make-up from any periodical on health heretofore published. It will not be a "public health" journal—that is, one to appeal to workers in public health; it will be a popular medical magazine. It will not make a special appeal to the intelligentsia or to the scientist, nor will it be a journal to attract the uneducated. It will be a periodical, however, that will make an appeal to the average layman—the man and woman on the street. And while it is not to be published for the physician, it will, we believe, contain much that will interest him and, occasionally, something that he will find instructive. In any event, whether or not he himself needs it, it will be a periodical that should be on the doctor's reception room table. A special introductory offer to physicians appeared in the advertising pages of THE JOURNAL the last six weeks. The responses are encouraging, but this periodical should have the support of the entire medical profession if, in its introduction to the public, it is to be an immediate success. While it might be introduced through the ordinary channels—and these channels will be utilized—it is surely the duty of the medical profession to support this enterprise. In asking physicians' support, we do not ask for a sacrifice: the actual cost of production of this journal to the Association will be far greater than the price at which it is being offered to them. The periodical will be profusely illustrated and will be printed on coated paper throughout.

County medical societies should see that this Journal is on the tables of all public libraries and it would prove a good investment to send it to them at society expense. A Pennsylvania society is sending it to all public school teachers in the county.

AS OTHERS SEE US

Editorials from the Lay Press.

GREATER LOVE HATH NO MAN.

Dr. Charles Vaillant, French experimenter with X-rays, would have been entitled as a martyr to science to the honors conferred upon him had his empty sleeves come from a laboratory accident. And here is a man so engrossed in his service to mankind that he persisted despite the surgeon's knife; who did not flinch as the burns from the rays spread slowly from one little finger. Ambassador Herrick spoke the thought in everybody's mind when he said that such medals and ribbons as the world may offer are but feeble recognition of Dr. Vaillant's sacrifice and abnegation. And he, be it remembered, is but one in the company of obscure students who consecrate their lives to their fellowmen, without hope of plaudits and seldom receiving any.

The average man is unable to visualize such stoicism and utter indifference to self. For most of us self is our universe. Little else matters. If necessary we will scratch and bite to get what we think we want, and the other fellow can look out for himself. Perhaps the Potter uses different grades of clay in molding His children, and the supply for Dr. Vaillants is limited. Nevertheless there is none who cannot by just a bit more thoughtfulness make the brief journey through this existence more comfortable for one's neighbors —and for oneself.—*The Milwaukee Journal.*

"DOC."

There has been a lot of comment over the recent announcement that hardly any of the physicians being turned out by the colleges of today are find-

ing their way to country practice. With the professions, it would seem, as with the trades, the city offers a quicker, more inviting pace.

We pause for a moment to regret the passing of Doc. Nobody knew him by any other name, and he was especially an intimate in every family because of the occasions of joy and sorrow and tension at which his face was a constant and familiar one.

The devotion of the country physician was proverbial. He is entirely passed, indeed, and yet we cannot help realizing that there are not many of the kindly and capable species left.

But after all, the modern days offer their compensation. A doctor who locates in any town outside a metropolis is certain to include some country practice in his ministrations, particularly if, like Doc of fond memory, his practice is so general as to include all the ills of every member of the family.

In his auto, he can cover many times the distance Doc used to plod along in his buggy. His tendency, too, is to specialize, and he has far better equipment of education than his forerunner of a generation ago. All he needs is practice—and folks seem to have just about as many babies, and the babies seem to have the measles and the whooping cough about as regularly as ever they did.—*The Manitowoc Herald.*

THE JOURNAL CLINIC

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DECREASED INTRAOCULAR TENSION IN DIABETIC COMA: A CLINICAL NOTE.*

BY WILLIAM S. MIDDLETON,

MADISON.

Pathognomonic signs are so rare in the field of diagnosis as to make their recognition of paramount importance. An apparently neglected sign falling in this group is the soft eyeball in diabetic coma. In 1916 Riesman[1] first called attention to this condition in this country and at the same time reviewed the literature on the subject. From his paper it appears that the sign was first described by Krause in 1903, since which time several published studies have emphasized its importance and attempted to reproduce the same by varying methods. The significance of the soft eyeball in diabetic coma is determined by its absence in other forms of coma and indeed in the acidosis of diabetis until coma intervenes. Experimentally the various ketone bodies have failed to induce hypotonia of the eyeball, but it has developed in a pancreatectomized dog. Riesman remarked a varying degree of intraocular tension in the same comatose individual. Of its prognostic value Riesman made no comment, but stressed the importance of the sign in diagnosis.

Two cases of diabetic coma coming to our attention in the past year have shown this peculiar reduction in intraocular tension. Both cases terminated fatally. While accurate determinations of the intraocular pressure might be made with the tonometer of Schiötz, for practical purposes simple palpation is sufficient to demonstrate the unusual doughy resistance offered by the hypotonic eyeball.

The conclusion that the presence of this sign proves the case of coma to be diabetic, was avoided by Riesman. He pointed out that it may be absent in diabetic coma. However, it has never been reported in coma from other causes and the high incidence of its occurrence in diabetic coma is at least significant inferential evidence. Whatever may be the results of more extensive observations on this point, the conclusion of its extreme importance in the diagnosis of diabetic coma seems justifiable.

*From the Bradley Memorial Hospital, Department of Clinical Medicine, University of Wisconsin.

[1]Riesman, David: J. A. M. A., Vol. LXVI, p. 85 (Jan. 8, 1916).

POLITICS AND THE HEALTH OFFICER.

Matthias Nicoll, Jr., New York (*Journal A. M. A.*, July 22, 1922), states that the reasons for the unpopularity of public health service are: (1) lack of knowledge on the part of many graduates of the professional schools as to the character of the work, the opportunities afforded for developing it and the qualifications, technical and personal, which are essential to success; (2) inadequacy of compensation, and (3) uncertainty as to tenure of office. To obtain adequately paid, well qualified, whole-time health officers, with a secure tenure of office, the author suggests that general education of the public regarding the meaning and importance of efficient health administration is needed.

PULMONARY LUES WITH ASSOCIATED GENERAL ARTHRITIC INVOLVEMENT.

A CASE REPORT.*

BY R. L. GILMAN, M. D.

The occurrence of pulmonary manifestations in syphilis is uncommon enough to engage our interest. Its differential diagnosis from fibroid phthisis is very important. The rarity of pulmonary lues is emphasized by Osler[1] who cites but twelve cases in 2,500 Johns Hopkins' autopsies, eight being congenital. Landis[2] takes a similar view and quotes but one case of indurative pneumonia with cavity formation in 3,000 autopsies at Massachusetts General Hospital, (Lord). Landis states: "Based on present standards, syphilis of the lungs in adults is a rare condition." In cases of specific infection involving the lung there have generally been associated leutic findings. Indeed, without these concomitant changes the status of diagnosis is much less secure. In the following case we believe that all factors necessary to a diagnosis have been present, and the general arthritic changes, though initiated in an atypical manner, represent the syphilitic chondro-arthritis of Virchow.

Particular significance should be attached to the preliminary diagnosis—that of pulmonary tuberculosis, which, no doubt, is the admissible error in all such cases. Careful inquiry into the history, the duration, the symptoms and physical signs ought to give early clues, later to be substantiated by positive and negative laboratory findings and finally corroborated by progress under treatment. In a word the ultimate diagnosis is derived from the response to antileutic treatment.

The following case represents several factors in leutic infection of the lung together with the laboratory findings, X-ray reports, treatment, and daily progress.

Case.

A. A. Age 30 years. Man admitted to the medical service of Bradley Memorial Hospital, October the 16th, 1922.

C. C.

Swollen joints.

H. P. I.

Patient states that he was well up to 1917, at which time he suffered an accident, a heavy timber struck him on the head. After this came an infection on his neck with subsequent drainage for nine weeks of his head wound and neck sinus. About five months following the accident appeared his first joint symptoms—the left elbow. This joint was not swollen, reddened or painful, but very stiff. The patient was able to return to his work. The following year the patient received a severe blow to his right hand, six months later the hand became swollen gradually, and was treated by a cast. In the Spring of 1920, the left knee stiffened, making walking difficult and was accompanied by swelling. Pain on motion. The left ankle became swollen after the knee trouble, probably not a true joint involvement. In the Spring of 1922, the right knee became affected in the manner of the left but less severe. At the present the patient is unable to perform his former occupation of laborer and walks with one crutch. He also has difficulty with free shoulder motion, no pain nor swelling. Two months ago the right elbow became stiff and swollen. The patient gives no history of cough, pain in chest, hemoptysis, and no marked loss in weight. Has occasionally a night sweat (?), but not severe. Not subject to "colds". No dyspnoea nor palpitation on moderate exertion. Ankles are swollen after moderate walking.

Generally a nocturia, three or four times a night; no day pollakiuria. Possibly polyuria.

No headaches, nor vertigo. Tinnitus occasionally in the left ear.

Appetite is fair, bowels move regularly. No gastro-intestinal symptoms.

P. M. H.

The patient had typhoid fever at 12 years, but recalls no illness before this. Has had no scarlet fever, diphtheria, tonsillitis, pneumonia or pleurisy. Denies gonorrhoea. Had a "sore on the penis" about five years ago disappeared after treatment. No rash.

F. H.

Mother living and well. Father died of influenza and asthma at the age of 57 years. Four brothers and three sisters living and well. No tuberculosis or arthritis in family history.

S. H.

Patient has been an outside laborer until prohibited by his arthritis. Is married—one child, no miscarriages. Drinks coffee daily, no tea. Does not use tobacco. Drank an occasional glass of liquor. Sleeps fair —about ten hours. Meals regular.

Physical Examination.

The patient is fairly well developed but appears somewhat emaciated, with poor musculature. He cannot stand erect and his gait, with crutch, is difficult. Slight acne on face and shoulders.

Eyes—React to light and accommodation. No nystagmus.

Nose and Ears—grossly negative.

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*From the Bradley Memorial Hospital, Department of Clinical Medicine, University of Wisconsin.

[1]Osler—"Principles and Practice of Medicine," New York, 8th Edition.

[2]Norris and Landis—"Diseases of the Chest," Philadelphia, 1920.

Mouth—Teeth excellent. Tongue protrudes in midline —tremor. Pharynx slightly congested.

Neck—Left posterior cervical glands palpable.

Chest—Long narrow type. Subcostal angle 90 degrees Prominent scapulae. Prominent clavicular fossae. The note, over left chest, is fair, but higher pitched on the right side with flatness of right apex, posteriorly. Fremitus is increased over normal on the right side. The bases, posteriorly have equal fremitus. Breath sounds are cog-wheeled, posteriorly. In the right apex is roughened inspiration with medium crackling râles. Whispered pectoriloquy right apex. Heart—not enlarged. Sounds are of fair quality. $A_2 > P_2$ No Murmurs.

Abdomen—No masses or organic enlargements.

Extremities—Knees are large, white and swollen. Extension not possible. Elbows are enlarged with inability to extend. Wrists appear thickened. First three metatarsals on right hand are enlarged. Hands are very moist. Skin elsewhere is shiny. Knee jerks. Epitrochlear nodes bilaterally palpable. Blood pressure —Systolic 118, Diastolic 64.

Impression.

1. Syphilis, with
2. Luetic trophic joints.
3. Pneumonitis. Right upper lobe (tuberculous or luetic).

Laboratory Reports.

Blood Wassermann—positive + + + +

Spinal fluid.

Cell Count is 10 per cm.

Wassermann negative (tr. I c.c.)

Gold Sol. 3333100000

Ross-Jones faintly positive.

Noguchi—positive.

Sputa (October 22 to 31) negative for tuberculosis.

Stereo of Chest—(October 18, 1922).

Trachea not clearly defined. Heart slightly to left. Both upper lobes show diffuse changes with quite distinct fans extending out along vertebral first and second interspace trunks. The fibrotic changes about main subdivisions of trachea are distinctly apparent. Tracheo—bronchial lymph nodes increased. Small lymphoid deposits at secondary bronchial subdivision. Peribronchial thickening lower lobe trunks. Peculiar annular shadow at right cardio phrenic angle lying apparently well anteriorly. Domes of diaphragm cut off. Hypertrophic changes in ribs, along their posterior arcs.

Impression.

Infiltration both upper lobes, right more extensive than left.

Progress Notes.

October 21, 1922—Buck's extension applied to extremities with five pounds to each limb.

October 31, 1922—Mercury salicylate started. Neo-arsphenamine started, initial dose of .4 grams.

November 2, 1922—Potassium iodide solution t. i. d. in increasing doses.

November 3, 1922—Spinal puncture performed with moderate tension.

November 7, 1922—Traction changed. Second dose of neo-arsphenamine given .45 grams for weekly intravenous treatment, increasing dose to .9 grams.

November 11, 1922—Lungs: Diminished resonance with increased tactile fremitus at right apex to 4th rib, anteriorly. A few râles in lower portion of this area. Slightly diminished resonance above right scapular area with diminished breath sounds but no râles. Taken off traction.

November 29, 1922—Institution of daily massage, baking and high frequency current.

December 26, 1922—Progressive and decided improvement in the joints. Up and about on a crutch. Electrotherapy an active factor in progress.

January 2, 1923—Tenth dose of neo-arsphenamine given today .9 grams. To be discontinued.

January 5, 1923—*Stero of Chest:* Trachea in midline. Heart is normal in size and contour. The peribronchial structures are diffusely increased. Apices are more involved than bases. Very slight fogging left apex. Numerous small lymphoid deposits both bases. Domes of diaphragm rounded and regular.

Impression—Peribronchitis and slight infiltration left apex. Compared with past roentgenograms marked melting of density about upper trunks.

January 22, 1923—Wassermann continued + + + +

January 24, 1923—Patient discharged. Walking with one cane. Subsequent anti-luetic courses to be re-established.

The individual, then, presented an indefinite history of venereal infection, multiple arthritic changes of gradual onset, and pulmonary pathology—the nature of which was undetermined until the time of admission. From the completed study and response to treatment we believe that the pulmonary changes represent the interstitial pneumonia type of syphilis of the lung which Anders[3] describes as "* * * a fibrous infiltration showing a predilection for the right lung. Its chief seat is the root of the lung whence it extends along the bronchi and vessels and usually involves a part of one or more lobes." The diagnosis has been made in conformity with Landis' postulates. "* * * the sputum must be repeatedly negative for tubercle bacilli or other organisms which produce lesions of a similar nature; other syphilitic stigmata must be present, and the Wassermann test must be positive. The results of anti-syphilitic treatment also furnish further valuable evidence."[2]

The age of our patient is compatible with lesions of the tertiary stage of lues though the early onset of his first joint symptoms after his initial lesion may mean either an early spiro-

[3]Ander's—"Practice of Medicine"—Philadelphia, 1920.

chaetal spread or a traumatic etiology. At no time did he have subjective symptoms suggestive of phthisis such as hemoptysis, loss of weight, night sweats or even cough—though any of these would have been compatible with his interstitial pneumonitis. His improvement under triple antiluetic treatment was marked, which response adds the last and possibly the most convincing of the diagnostic criteria. A great share in the functional restoration of his joints was attributed to electrotherapeutic methods. Prognosis is of course dependent upon further and repeated courses of mercury, the arsenicals and iodides.

MULTIPLE TOXIC ADENOMA OF THE THYROID.

BY ARNOLD S. JACKSON,

SECTION ON SURGERY, JACKSON CLINIC,

MADISON.

Adenoma of the thyroid gland usually develops during or shortly after the age of puberty. It occurs eight times as often in women as in men. Frequently it arises in a colloid goiter. At the beginning there may be only one or two small simple adenomas, but in time the number may increase to hundreds and they may become cystic, calcareous, fibrous or degenerated. One of every four will in time become toxic. Toxicity is rarely observed in these patients before thirty years of age. In contrast to the symptoms of exophthalmic goiter, the symptoms of toxicity develop gradually over a period of years. A toxic condition, however, may be induced by medication and cause an acute condition; toxic symptoms are being produced in a great many patients with simple adenoma by the promiscuous use of some form of iodin. No form of medication is indicated in the treatment of multiple adenoma. Such patients should either be left alone or operated on. Often iodin is given with only the best of intentions by the family doctor, but more frequently, as in two cases which I have recently observed, it is taken in the form of a patent medicine.

I wish here to bring this remedy to the attention of the physicians in this state so that they may be on the lookout for it and other similar remedies. I was able to secure a bottle of the remedy marked with an advertisement which states that the majority of goiters are cured with sixteen bottles. A sample was sent to the propaganda department of the American Medical Association. Investigation in the Association's chemical laboratory revealed that the nostrum consists essentially of ferrous iodid and hydriodic acid in syrup. An article on the nostrum is to be published in the *Journal*.

REPORT OF CASE.

Case 29894. Mrs. B. S., aged thirty-six years, came to the Clinic January 23, 1922, complaining of a rather large goiter. She had not had tachycardia, palpitation, loss in weight or strength, or other signs indicative of thyrotoxicosis. Examination of the thyroid revealed a multiple nontoxic adenoma with enlargement of the right lobe, grade 3, on a scale of 1, 2, 3, 4, and of the left lobe, grade 2. The blood pressure was systolic 138 and diastolic 78. X-ray examination revealed substernal projection on the right. Slight adductor paresis was noted on examination of the vocal cords. In view of slight pressure symptoms and the presence of a large growing substernal goiter, operation was advised. The patient was unable to enter the hospital at this time and asked to postpone the operation.

December 4, she returned to the Clinic in an extremely toxic condition. She stated that she had felt perfectly well until three months previous when she had begun taking a "goiter cure". For a time the goiter became smaller and she paid but slight attention to the symptoms that developed. Within a few weeks she noticed her heart beat rapidly, her hands trembled, she lost strength and weight, and was nervous and warm. She became alarmed and wrote to the patent medicine con-

Fig. 1. Patient with multiple toxic adenoma of the thyroid. Hyperthyroidism was induced by a "goiter cure" which contained ferrous oxid. The basal metabolic rate was +44 per cent and weight loss 20 pounds.

cern, but was assured that this was to be expected and that she must continue the treatment in order to rid herself of the goiter.

Examination revealed marked thyrotoxicosis. The patient was extremely nervous, had a pulse rate of 120, had lost 20 pounds in two months, was nauseated, and complained of diarrhea. Quadriceps loss amounted to 3 on a scale of 1, 2, 3, 4. She perspired profusely and had a marked tremor. The basal metabolic rate was 44 per cent. Thyroidectomy was performed under local anesthesia and the patient restored to normal health.

Mrs. C. W., another patient, aged fifty-three years, gave an almost identical history, except that her symptoms developed even more acutely on taking the nostrum. The basal metabolic rate in her case dropped from + 29 per cent to normal following thyroidectomy.

Fig. 2. Same patient two months following thyroidectomy. Her basal metabolic rate was + 6 per cent and she had regained her normal weight and strength. All hyperthyroid symptoms had subsided.

UNIVERSITY OF WISCONSIN MEDICAL SOCIETY, JANUARY 17, 1923.

STUDIES ON THE HEART SIZE.

BY W. J. MEEK, Ph. D.

Dr Meek stated that the present report was an elaboration of the work reported by Tasche and Meinert, last year. He outlined the methods usually applied for the determination of heart size, stating that the indirect methods had little practical application, because of certain technical difficulties and stated that the direct methods on the open chest with heart enclosed in capsule, were obviously impracticable for human study. He furthermore pointed out that certain factors were introduced which destroyed their value in other details.

In the present study, teleoroentgenograms were taken in from 1/40 to 1/30 second exposures by special device, using the electrocardiogram to time the two phases of the cardiac cycle (systole and diastole). It was possible to determine by the difference in the projected silhouettes of these phases the cardiac output in one given cycle. In this respect he emphasized the importance of reading in a single cycle since it had been determined that no two cycles are exactly alike.

For the present study the chest was maintained in its position against the plate, and with position unchanged exercises were executed with the arms (dumbbells being used). The output of the heart per minute was determined by a study of the differences in the areas above described in the two phases of cardiac activity (systole and diastole). This factor of cardiac output per minute depends on the minute volume, which in turn may depend on increased rate or increased output per beat—any combination of which two factors may exist.

A total of 17 cases were studied and it was found that the output increase per beat could depend on one of five possible circumstances—

1. Larger diastolic heart size, same systolic.
2. Larger diastolic size, smaller systolic.
3. Larger diastolic size, larger systolic.
4. Same diastolic size, smaller systolic.
5. Smaller diastolic size, smaller systolic.

An interesting distribution of the cases according to these five conditions was determined. The first explanation held in one case; the second in four; the third in six; the fourth in one; and the fifth in five cases. It is obvious, therefore, that a single explanation of the circumstances of cardiac size on exertion is untenable. Some hearts may have a smaller, others a larger diastolic size.

In 17 cases there was determined an average output of 79 c.c. per beat, the slower the rate the larger the output (as a rule this condition pertains to the trained individuals), whereas in the untrained an increased rate usually makes up for decreased output. The average output per beat of the 17 individuals on exertion was 94 c.c., the minute volume averaging five liters at rest and ten liters on exertion.

It becomes apparent from this study that there may actually occur a decrease in output in in-

dividual beat, in which circumstance the rate will compensate. In others the rate may be the same but the output per beat will give an increase in the minute output. In seeking an explanation, Dr. Meek advances the following as probable causative agents:

1. On the tonus of heart muscle under different conditions depends the varying resistance of the heart to dilatation. The evidence for this factor is that the heart with decreased diastolic size and increased tonus may have increased output, which circumstance argues against Starling's law that the physiological response of the heart muscle in contraction is proportionate to the length of its fibers.

2. The length of the fibers determines the output and this in turn is dependent on the height of venous pressure, since this circumstance determines the diastolic filling and, therefore, the output. Dr. Meek then discussed adequate and inadequate venous pressure dependent on whether the proper amount of blood reaches the auricles at such time.

3. The heart rate constitutes the third factor. Certain experiments of Dr. Meek's in which with maintained venous pressure at the level of the auricles a heart rate was increased from 60 to 190 without increase in the output, seem to make this factor a minor one as compared with venous pressure.

Dr. Meek hinted that the pericardium was an important factor in restraining the heart size within certain limits against an increased venous pressure and produced experimental evidence to show that with an open pericardium a venous pressure resisted within certain limits by an intact pericardium, was now sufficient to cause wide dilatation.

This paper was discussed by Dr. Dawson.

STUDIES IN POST MORTEM ACIDOSIS.

BY E. L. SEVRINGHAUS, M. D., AND A. E. KOEHLER, Ph. D.

In opening the discussion of this subject, Dr. Sevringhaus stated that this study was the outgrowth of Dr. Bradley's work on autolysis. He pointed out the existence of acid changes in the tissues post mortem and stated that addition of acids increased and alkali retarded autolysis, and furthermore stated that the whole process was one of enzymatic activity. The P_H was little changed—6.7 being the reading in from three to seven hours—even at the end of thirty days this level was not greatly increased. In studying the influence on induced alkalinity in the breis it was determined that there was considerable fall in the alkali after a given time. Anaesthetics seemed to induce a similar change in the rapidity of developing acidosis. Furthermore, studies were made on muscle as well as liver to determine these factors.

Dr. Sevringhaus pointed out that the usual assumption of lactic acid's responsibility for this acidosis failed to find confirmation in their studies. It was determined that 28% of the acidity could be accounted for by the fatty acids and only 3 to 8% were from CO_2. It would seem from the studies of Drs. Sevringhaus and Koehler, that the phosphoric acid was by all odds the most important one in inducing post mortem acidosis. Graphs of the development of inorganic phosphates in the liver show a slow rise to one-half hour, then a very sharp rise to almost six times the original level at the end of six hours when the peak is reached. The investigators suggest that the origin of inorganic and organic phosphates being from several sources and the apparent rapid pouring out of phosphates on nervous shock may give this substance the important position of a buffer against the alkalies of the body.

In closing Dr. Koehler pointed out that death occurs with a P_H of 6.6 when acidosis was induced, and furthermore a level of the same degree being determined in death from experimental procedures apparently making the two synonymous, whatever the cause.

THE PRECIPITIN REACTION OF THYROGLOBULIN

The antigenic properties of thyroglobulin were studied by Ludvig Hektoen and Kamil Schulhof, Chicago (*Journal A. M. A.*, Feb. 10, 1923), and it occurred to us that it would be of interest to study them. They prepared thyroglobulin from beef, swine and humen thyroids in the usual way, but with special efforts to obtain as pure a product as possible. The results of this work indicate that human thyroglobulin, prepared as described, contains a main, strictly specific antigen and also lesser antigens that in the rabbit may call forth preciptins for thyroglobulins of other species. The beef and swine thyroglobulins used in these experiments acted as strictly specific antigens.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

THE MEDICAL PRACTITIONER AND THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER.

BY J. E. RUSH, M. D.,

FIELD DIRECTOR, AMERICAN SOCIETY FOR THE CONTROL OF CANCER.

Among the most important public health problems confronting the medical profession to-day is that of cancer control. It is possible to make a division of public health movements into several groups, depending on the amount of educational work which must be carried out before the program can be successful. In one group we find such diseases as Typhoid Fever, Malaria, and Yellow Fever which may be controlled simply by educating a few individuals who possess the necessary power in a community to place the program in operation after they have been shown the desirability of such a procedure. This type of activity is relatively simple because it depends upon the education of a few individuals. Unfortunately, the diseases that can be controlled in this manner are among those which usually do not exact from the populace the greatest economic toll.

Another group of diseases may be effectively dealt with through police power and here again we depend on the education of a few members of any given community. For the most part the diseases which may be controlled by this means we refer to as "communicable" and usually they can be very effectively dealt with by placarding, isolation and quarantine.

There is another group of diseases which are not communicable and in which the education of but a few members of the community is not sufficient to affect the mortality rate. Here, we find cancer, which depends for its ultimate control upon the education of every single adult of the community, with reference to the early signs and symptoms of the disease, for only in its early stages is cancer curable. With the present attitude of the public to seek medical advice only when they are aware of distressing symptoms, they must be told that early cancer is usually painless and that proper treatment cannot be instituted until they have sought the advice of a physician.

The medical profession is interested in all types of medicine whether preventive or curative. As a matter of fact, there really is no hard and fast line of demarcation between preventive and curative procedures any more than there is a dividing line between the metals and the non-metals. The medical profession is interested in all problems of public welfare but when it comes to matters concerning public health they are the only ones who through tradition and training are capable of handling the problems which present themselves for solution. It is the only profession at the present time that is engaged in real preventive medicine and it is the profession of election for this type of work. Usually public health movements have been initiated by the medical profession but in many instances the work has passed into the hands of the laity because the members of the medical profession have been pre-occupied with other important problems.

What we have said with regard to the attitude of the medical profession towards public health work clearly emphasizes the need of control by the medical profession of all public health movements. The profession is particularly interested in the problem of cancer control not only because it is of great humanitarian interest but because of the further fact that cancer is one of those conditions in which it has been clearly demonstrated that the medical profession is the only one capable of offering a solution. While sanitary engineers, epidemiologists and others may be of great value in the conduct of specific public health movements their training and experience does not make them capable of helping in cancer control. The slogan of the American Society for the Control of Cancer that "Early cancer is curable if you will but consult your medical practitioner in time," again clearly emphasizes that the physician is the only one capable of reducing the mortality from cancer.

Another interesting feature of the movement for cancer control is that the establishment of diagnostic clinics during National Cancer Week is of some educational value to certain members of the medical fraternity because important points of differential diagnosis between early carcinoma of

tongue, for example, and primary luetic ulcer, are demonstrated. The cancer movement in this respect, is one of the few that attempts to repay the physician for the great effort he has expended in its behalf.

It has been claimed by some of the unthinking individuals among the laity that preventive and curative medicine are diametrically opposed. They do not realize that there is, in the last analysis, but little difference between preventive and curative measures. For example, all physicians take blood pressures and make urine analyses during the course of a pregnancy and not by the wildest stretch of the imagination can this be interpreted as a curative measure,—it is a preventive measure pure and simple.

Through various educational movements which are now being conducted to instruct the public with regard to conditions which are definitely preventable; the great mass of the people are gradually coming to realize that the physician must be looked upon as a teacher and adviser rather than one who is to be consulted only when symtoms of a diseased condition have manifested themselves. The physician, too, realizes that this teaching attitude is appreciated by the public for by this means he is able to prevent premature deaths among his clientele. Not only does he spare the patient in question for future usefulness but, more important, he does not divorce the rest of the members of that particular family. The physician realizes that the most appreciative patient is one who, through early advice and proper instruction, has been saved from untold suffering and an untimely death.

All health movements if properly managed and ethically controlled by the medical profession will not only eliminate certain objectionable features present in some of them as now conducted by the laity (who have no appreciation of medical ethics) but such activities will help consolidate the medical profession against the ever increasing influence of the cults. It is true, that we as a profession do not heartily approve of certain public health movements now in progress, because they do not conform to our ethical code. If they were controlled by the medical profession this objection would be removed.

It must be realized that the cults never would have existed had the medical profession taken a definite stand against them, but realizing that "Imitation is the sincerest flattery", we have allowed them to go on:—to exploit the public until even the great mass of the people has recognized the lack of sincerity which prompted the various movements.

The proper extension of these ideas relative to organization in order to control public health problems contains within it the answer to the proponents of that most preposterous type of activity known as "State Medicine."

The organization for cancer control is dependent upon the activities of the medical profession; and therefore the units upon which the organization is built are the State and County Medical Societies. The whole movement has been endorsed and approved by practically all national, sectional, state and local, medical and surgical bodies, because it is entirely controlled by the profession itself. In the perfected organization for cancer control, we have the ground work to handle other problems of a public health nature; be they ones already in existence or future ventures. By proper organization, too, we shall be in a stronger position to abort detrimental legislation, whether directed at us or to legalize the ignorant cults. A public health problem directed solely by physicians will do more to properly organize the medical profession than any other type of activity.

It has been pointed out that if we do not seriously consider the "scientific attainments" of the cults, then every preventable death is a reflection on us. It has been claimed that the fact that the patient did not come early enough to us for examination and advice is no excuse;—that we, as the only logical profession engaged in the practice of the healing art should have the undivided confidence of the public to such an extent that they will report to us what are very trivial matters and thus give us opportunity to institute proper procedures in time. In the vernacular of the street, it has been suggested that we should "sell ourselves to the public;" which in other words means that there is at the present time a great need of ethical publicity on the part of the profession. It really seems that this would, to a very great extent, increase our usefulness to the community in which we practice. If this is true, then no physician can be so busy that he cannot devote a small amount of time to help in the campaign for cancer education, because by so helping, he is not only advancing his own usefulness to his community but is of

the greatest value to his medical brothers and to his profession.

A few members of the laity have explained what they have interpreted as apathy on the part of certain of the medical profession toward preventive medicine, by emphasizing the fact that preventive medicine was diametrically opposed to curative measures. We, of the medical profession realize the fallacy of this. Let us consider an analogy from the field of engineering. Suppose that ten engineers were bidding on a contract to construct a road between two adjacent cities. Only one could be successful; but would the others put obstacles in the way to prevent him from completing his task? The answer is apparent. They would not; for they would realize that when the public had seen the value of this road, they would demand similar ones in all other directions and hence the other engineers would have an opportunity to build some of them. I realize that the above example compares a business conducted purely for monetary return, to a profession which interests itself chiefly with humanitarian efforts, but the very few of the public who believe that all persons are actuated by ulterior motives should be answered. The good roads analogy applies directly to medicine, for the medical practitioner realizes that each time the public is convinced that it is unnecessary for them to suffer with various ailments they demand the removal of others which heretofore they patiently tolerated. An example may illustrate this point:—

A friend of mine who for many years was almost an invalid from recurrent attacks of what was then diagnosed as "inflammation of the bowel" and for which, at that time there was no known cure, was simply forced to allow the condition to exist which undermined his health and lowered his efficiency. At the present time because of the knowledge of the laity concerning chronic appendicitis he would know that an operation requiring him to be at a hospital for but two short weeks, would give him complete relief, and enable him to resume his life's work at a greatly increased efficiency.

Our medical ethics instituted at the time of Hippocrates admit of no change; but our interpretation of them may be broadened to meet the changing conditions; especially those which have been brought about during the past two or three decades. It may be necessary to change our ideas regarding proper non-personal publicity for the medical profession as a whole and for our state and county societies. In this connection I am reminded of the story of the young color-bearer at Gettysburg who had advanced somewhat ahead of the lines, and when ordered back to his position by his commanding officer replied, "Bring the line up to the flag."

WATER-BORNE DISEASES WITH RELATION TO PUBLIC WATER SUPPLIES.

BY W. W. BAUER, M. D.,

EPIDEMIOLOGIST, MILWAUKEE HEALTH DEPARTMENT.

Following the broad exposition of the principles upon which our attitude toward water-borne diseases is based, as set forth by Dr. Bowman, I can add nothing which he has not already considered. It will be my purpose, therefore, to consider perhaps a little more in detail certain statistical and laboratory data, relative to Milwaukee and other cities, and will try to see to what conclusions, if any, this may lead us.

First, we must recognize as Dr. Bowman has done that a polluted water supply cannot transmit specifically typhoid fever or the other water-borne infections, unless it is receiving the discharges from cases of this particular disease. We must recognize, however, that these are less and less water-borne as the public mind and conscience are aroused to the conditions of public water supplies, and more and more spread by carriers and unrecognized cases. Diseases which are generally considered to be water-borne include the fevers of the typhoid group, cholera nostras—the deadly enteritis which continues, in spite of modern health methods, to be responsible for far too large a percentage of infant deaths, and less commonly in these latitudes bacillary and amebic dysentery, and cholera asiatica.

For many years sanitarians have recognized the above list of water-borne diseases, but in 1893 Reincke, Health Officer, of Hamburg, a physician, and Mills of the Massachusetts State Board of Health, an engineer, pointed out certain other facts which they gleaned from the vital statistics of the cities of Hamburg and Lawrence respectively where water purification had been installed. True to expectations, the distinctly water-borne diseases declined remarkably in these cities after purification as compared with their prior records.

There was, however, a drop also in the incidence of other diseases which was noticeable after water purification was installed. For the observations of Mills and Reincke, Sedgwick and MacNutt coined the term, "The Mills-Reincke Phenomenon," and this phenomenon was intensively studied by the latter observers. The Mills-Reincke Phenomenon has been questioned by some observers, notably Chapin, and in considering statistics with that phenomenon in mind, it is well to remember that observations of Mills and Reincke should be taken as a basis of observation of other statistics with an open mind for possible fallacies in their conclusions. It is not possible in the limited time at my disposal to do more than sketch briefly the statistical data set forth by Sedgwick and MacNutt. In Binghamton, N. Y. where water filtration was begun in 1902, there was not only a marked reduction of the typhoid death rate, but a considerable reduction in the total death rate minus the typhoid component. In Albany, N. Y. when in 1899 two-thirds of their water supply was filtered there began a decline in the death rate from typhoid fever which was paralleled by declines in the acute respiratory diseases, in pulmonary tuberculosis, diarrheal diseases, and total deaths under five years of age, as well as the total death rate of all ages, minus the typhoid component. These are in accordance with Mills and Reincke's statement. But in other instances the Mills-Reincke phenomenon does not hold. Hazen believed that for each case of typhoid eliminated by water purification, two or three cases of other infectious diseases were likewise eliminated. Both the Mills-Reincke phenomenon and Hazen's theorem require further elucidation. In Manchester, N. H. whose statistics were used as a control because no water purification was there installed, there is also a decrease in the mortality from typhoid fever, pulmonary tuberculosis, and cholera infantum. In Manchester, however, pneumonia and bronchitis, as well as the total death rate minus the typhoid component, remained either stationary or showed an increase instead of paralleling the other curves. Realizing that detailed comparison of cities is unfair because of the differing local conditions which may affect disease rates, it is nevertheless permissable from the above figures to draw certain deductions as to general tendencies where water is purified as compared with cities where it is not. Tuberculosis and diarrheal diseases of childhood would be expected to decline whether water was purified or not, because of the well known and highly successful activities of anti-tuberculosis workers, and the great child welfare movement. Although these two diseases may be affected as any other by underlying influences, nevertheless, the determined fight which has been made against them is an additional factor that cannot be ignored. When, however, we come to the respiratory diseases, including the acute infectious fevers, exclusive of typhoid, we find a different record. In scarlet fever, we have hospitalization, isolation, school inspection, and the recognition of peeling cases, and yet the control of this disease is not all that we would desire. In diphtheria, despite free antitoxin, quarantine, isolation and treatment of carriers, Schick testing, and Behring's immunization, we are still faced with a great prevalence of this disease. I have deliberately disregarded the figures for 1920 and 1921, because there has been during these years a remarkable diminution of disease, not only in Milwaukee, but in other American cities, and throughout the world. The question has been raised whether the great pandemic of 1918 and the lesser one of 1919 and the early months of 1920 have removed large numbers of non-immunes, and have consequently resulted in a lower disease incidence and death rate in those who remain. It is conceivable that this may be part of the explanation of the low morbidity and mortality rates which have prevailed for the past two years, but certainly it is not the whole story.

Turning now specifically to the situation in Milwaukee, we find that that city in common with most other lake ports is taking its drinking water from the lake and empting its sewage into the lake. Ever since 1911 comparison of Milwaukee's mortality from scarletina, diphtheria, measles, and whooping cough shows that our rate has been consistently greater than that of the U. S. Registration Area for the same four diseases. The Milwaukee Health Department has an active supervision of these diseases through its quarantine division, its bacteriological laboratory, and co-operation of the District Attorney in enforcing the laws. Certainly the medical profession of Milwaukee is no less competent than that of the remainder of the U. S. Registration Area. The Milwaukee Health Department has physicians and nurses active in a co-ordinated school inspection system, and a system of child welfare and dental

clinics. In spite of all the above factors which should operate in reducing communicable diseases, and assuming that the percentage of reporting in Milwaukee is comparable with that elsewhere, what can be the explanation of a higher death rate from the four principal communicable diseases of children than exists in the U. S. Registration Area. In addition to the four children's diseases just named, there is to be considered the death rate from diarrheal diseases, mainly the diarrheas of infancy. Referring again specifically to Milwaukee, and excluding the high peaks in the curve which are due to explosive outbreaks following a heavy pollution, there is seen in the deaths from the diarrheas of infancy a steady increase from 3 per 100,000 in 1901 to 5 in 1919. Turning to death rates from pneumonia per 100,000 population, and again eliminating the high peak of 1918 which is admittedly abnormal, we find Milwaukee's death rate per 100,000 from pneumonia constantly, though slowly creeping upward, this again in spite of better sanitary and hygienic conditions, preventive work by the Health Department, and cooperating charitable agencies. Obviously the answer is that some general underlying factor is operative. In view of all the above mentioned facts, and the laboratory findings which will be set forth briefly below, it is the belief of the Milwaukee Health Department that pollution of the water supply is at least part of that underlying factor.

Whether the pollution of water supplies operates in maintaining high mortality rates in a City like Milwaukee by being the direct medium of transmission of the disease, or by being instrumental in lowering the general resistance of the entire population is a question that requires further investigation and study which can be carried out only with the cooperation of the medical profession and the public.

During the first five months of 1922 which we may well take for an average year, there were made in the bacteriological and chemical laboratories of the Health Department numerous examinations of the City water taken at the laboratory tap. This water, it is to be remembered, is chlorinated under careful bacteriological and chemical supervision both by the Water Department and Health Department laboratories. Of the above examinations roughly two-thirds were found unfit for drinking purposes even after chlorination. The standard used was that of the A. P. H. A. Pathogenic organisms, exclusive of b. coli, were found in 50% of these specimens which conformed with the U. S. Standard. The exact number of times that each of these pathogens was found is of no consequence. Their order of frequency was as follows:

Streptococci, non-hemolytic fermenting and non-fermenting types; gas bacillus of Welch; staphylococcus aureus; bacillus proteus; b. mesentericum; b. pyocyaneous; m. tetragenous; b. sporogenes. Virulence of these was somewhat variable, but their presence alone is significant. In the journal of the A. M. A. in Jan. 1922 there was reported the experience of Montclair, New Jersey where there occurred an explosive outbreak of 2000 cases, in a population of 28,000, of intestinal infections, not typhoid fever. These cases occurred mostly in children, and the water supply being furnished that city was unfiltered chlorinated water. This outbreak furnished additional reason for our conclusion that chlorination without other purification is inadequate, and leaves the water supply at least a potential menace to the public health.

I believe, in view of all the above facts, that it can be asserted without fear of successful contradiction that any water which receives a miscellaneous and variable pollution of organisms which have produced disease in the population from which the water receives its pollution cannot be a safe water supply unless purified, and that the continuous ingestion of said water unpurified must always be regarded as a potential source of specific disease or lowered general resistance of the population with a consequent tendency to disease.

CONCLUSIONS.

1. The conception of water-borne diseases should include not only the epidemics of intestinal diseases, but should contemplate the possibility that water may be the medium of transmission for any germ disease, and in this connection it should be emphasized that the expression of infection may be evident in other portions of the body than the portal of entry.

2. We must also consider that typhoid fever alone can no longer be regarded as the standard by which water purification is to be judged.

3. Statistical data in other cities indicate that purification of the water supply has a definite

influence upon diseases other than the intestinal group.

4. In spite of active health measures in the City of Milwaukee, that City nevertheless maintains a death rate higher than that of the Registration Area for the four principal infectious diseases of children.

5. In spite of active measures in the City of Milwaukee, that city, nevertheless, shows a definite increase in the last twenty years of the death rates from pneumonia and the diarrheal diseases of infancy.

6. Laboratory data are in agreement with statistical data in indicating that the public water supply may operate to maintain a high death rate from all infectious diseases in spite of other health measures.

7. It is the duty of every health officer to carry on further statistical and laboratory investigations to determine additional details of the influence of the water supply as an underlying factor in the incidence and mortality of all the infectious diseases, regardless of whether or not they are of the intestinal group.

7. A water supply which is constantly receiving sewage from a large city or metropolitan district or any smaller supply receiving considerable pollution cannot be a safe and desirable source of drinking water, unless two safeguards are constantly employed, namely:

A. Sewage must not be discharged into the water supply or if there is no other means of sewage disposal, then this sewage must be adequately treated at all times to remove, as far as possible, the polluting elements.

B. The water supply must be adequately purified before being furnished to the city or district for drinking purposes. The experience of Milwaukee as set forth above indicates that disinfection by chemical means alone is not sufficient, and it is evident from the above data that both filtration and chlorination are necessary in addition to sewage disposal.

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PUBLIC HEALTH NEWS ITEMS.

Cities having a milk ordinance, providing for the sale of milk only from tuberculin tested cows, should make provision for such tests annually.

Dr. W. F. Whyte, Madison, was re-elected president of the state board of health and Dr. E. S. Hayes, Eau Claire, vice-president, at the annual meeting Jan. 31.

Where a physician is not employed it is the householder's duty to report cases or suspected cases of communicable disease to the health officer.

No leniency should be shown a physician who, after recognizing a case of dangerous communicable disease, such as whooping cough, fails to notify the health department as required by the law.

A physician, long derelict in filing birth certificates because of an alleged grievance against the local health department, has been given Feb. 3 to file them or suffer arrest under the penalty provision of the law.

Admission to the Wisconsin General hospital, Madison, for deformed children of indigent parents is made possible by a law which requires the expense to be borne jointly by the state and county upon an order issued by the county judge.

The Board of Health has prepared an outline of new health legislation for the consideration of the present legislature. It is proposed to amend existing laws so that a building unfit for human occupancy can be legally condemned; prohibiting persons with venereal disease from handling foods; providing for full-time local health officers in cities of more than 15,000; prohibiting persons who were born deaf from marrying unless sterilized; providing for the sharing of expense for the control of communicable diseases in joint school districts; providing for the examination of vagrants for venereal disease, and authorizing any officer of the State Board of Health to make examinations for commitment for venereal disease.

Typhoid Carriers. A. L. Garbat. Monograph No. 16 Rockefeller Institute for Medical Research. May 10, 1922. p. 1-110.

This monograph, with its primary thesis that "all typhoid is born of typhoid," presents an excellent series of careful clinical and experimental observations. The conclusions of the author are given in brief:

1. Feces cultures employed for detecting the presence of typhoid bacteria in the intestines fail in 15 per cent of typhoid carriers. Direct examination of the bile by duodenal cultures is the only accurate means for the detection of the carriers. In 15 per cent of typhoid convalescents, typhoid bacilli may be discovered in the bile after 3 consecutive stool cultures have been negative; and they are not destroyed in the intestines but merely escape detection by stool examination.

2. Feces cultures should not, however, be entirely discarded because of the existence (although very rare) of pure intestinal carriers in which typhoid bacilli occur in the stool and not in the bile. One such definite intestinal carrier is reported.

3. An absolutely safe indication of the complete absence of typhoid bacteria in the intestinal tract would be offered by 2 consecutive negative bile cultures and 2 consecutive negative feces cultures. No special interval of days between these examinations is required.

4. 32 per cent of typhoid patients become feces carriers. Of these 28 to 29 per cent are temporary carriers while 3 to 4 per cent become permanent carriers.

5. Of the temporary carriers, 17.5 per cent are carriers for 1 month, 8.0 per cent for 2 months, 3.0 per cent for 3 months.

6. Three distinct types of feces carriers have been found according to the original source of the infection: (a) liver, (b) gall bladder, (c) intestinal. In the first two only are the bacilli transmitted by the bile. Combinations of these types may result, if the carrier state continues.

7. No factors can be cited as definitely predisposing to the carrier conditions.

8. Patients who present symptoms of cholecystitis or cholelithiasis during the course of the typhoid illness, usually become carriers, but not all the carriers necessarily present symptoms referable to the gall bladder during the acute illness.

9. The use of solid media alone (Endo plates) for detecting typhoid bacilli in urine is inadequate. A 24 hour growth in broth is first necessary before planting.

10. The excretion of typhoid bacteria in the urine is of an intermittent character. The urine may change from a specimen with no bacteria to one with very many bacteria within several hours.

11. It is misleading to consider the urine of patients free from typhoid bacteria on the basis of 3 consecutive negative examinations at 6 day intervals; such a rule fails in 20 to 25 per cent of urine carriers.

12. A negative culture in broth from a 24 hour specimen of urine sterilely collected is the only safe guide.

13. The urine is as important a factor as the feces in the spread of typhoid fever.

14. 6.7 per cent of all typhoid cases, or 13.6 per cent of all cases of bacilluria, remain positive for 1 to 2 months after the absence of fever. In only 1.2 per cent of all typhoid cases, or 2.5 per cent of all positive cases, does the bacilluria continue for 2 to 3 months.

15. No definite explanation can be given for the intermittency with which the typhoid bacilli are excreted. It was suggested that an infection in the pelvis of the kidney or its calyces might account for the condition. Under these circumstances, the pelvis of the kidney bears the same relation to the kidney as does the gall bladder to the liver.

OBSERVATIONS ON THE CORRECTION OF DEFORMITIES OF LONG STANDING

Armitage Whitman, New York (*Journal A. M. A.*, Jan. 6, 1923), cites the case of a man, aged 52, who had had an attack of anterior poliomyelitis, thirty-eight years previously, which resulted in complete paralysis of both legs. Whitman performed, successively, over a period of four or five months: astragalectomy and backward displacement of the foot on the right side; right Soutter operation; left astragalectomy, with backward displacement of the foot, left Soutter operations. He then applied casts and braces until, after nine months, the patient could walk with the aid of crutches. From a study of this case, it appears, therefore, that: (1) Deformities of indefinite duration may be successfully corrected. (2) Some patients, at least, seem to consider independent locomotion worth the risk of repeated operations. (3) No single operation may be exclusively relied on, and a combination of gradual mechanical and operative correction is required. (4) Functional use has a direct influence on calcium deposit in bone.

THE STATE MEDICAL SOCIETY OF WISCONSIN

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Winnebago	Ronald Rogers, Neenah	S. D. Greenwood, Neenah.
Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield.

SOCIETY PROCEEDINGS

BARRON-P-W-S-B COUNTY

The regular meeting of the Society was held at Spooner, March 6. The following program was rendered:

Paper by Dr. Galloway; "Lethargica Encephalitis, a case report, Dr. Dawson; "The Gallbladder," Dr. Nels Werner, Barron, and "Epilepsy and its Treatment," Dr. Hengstler of St. Paul.

DOUGLAS COUNTY

A meeting of the Douglas County Medical Society was held in the Civic and Commerce Club rooms, Wednesday evening, February 7th. Dr. C. S. Rydell of Superior read an interesting paper on "Reflexes." Thirty members of the society were present.

LA CROSSE COUNTY

The regular monthly meeting of the La Crosse County Medical Society was held at the La Crosse Club, Thursday evening, March 1st, 1923. It was originally planned to have the meeting preceded by a dinner at the La Crosse General Hospital but due to the large number of Influenza cases in the City at this time it was thought best to shorten the program as much as possible, so the dinner was postponed.

The program of the evening was furnished by the Staff of the La Crosse General Hospital. Dr. W. J. Jones read an interesting paper on "Fractures of the Humerus and their Treatment," illustrating cases with X-ray plates. Dr. Herman Wolf read an interesting paper on "Diabetes." Discussion of the papers by Staff members was opened by Dr. Jens Rosholt, following which a general discussion ensued.

This program was the third of a series of programs to be presented by the different Hospital Staffs of the City during the year.

MILWAUKEE ACADEMY OF MEDICINE

The folowing program was given at a Clinical Meeting of the Milwaukee Academy of Medicine, held Tuesday, February 13, at 8:15 P. M:

1. Traumatic Aneurysm of the Posterior Tibial Artery, Dr. H. C. Schumm. Discussion opened by Dr. C. A. Evans.

2. Cancer of the Breast in a Male Patient, Dr. F. B. McMahon.

3. Appendicitis with Hematuria, Dr. Max Bornstein.

4. Unruptured Ectopic Cyst of the Ovary with Presentation of the Specimen, Dr. S. H. Wetzler.

5. Demonstration of the Hess Pupiloscope, Dr. F. H. Haessler.

6. A Case of Chloroma, Dr. L. Boorse.

7. Remarks on the Use of Insulin in Diabetes, Dr. W. Thalhimer.

8. Diaphragmatic Hernia with Lantern Slides, Dr. F. W. MacKoy.

9. Presentation of Other Cases, Specimens and X-ray Films.

PROGRAM TUESDAY, FEBRUARY 27.

1. Presentation of Cases, Specimens and X-ray Films.

2. Report of the Effect of Multiple Transfusions upon a Case of Grave Anaemia, Dr. C. D. Miller. Discussion by Drs. J. L. Yates and Edwin Henes, Jr.

3. Sporotrichosis, Dr. Harry R. Foerster. Discussion opened by Dr. C. A. Baer.

4. Report of Ninety Cases of Blood Transfusion, by a special technique, with no reactions, Dr. R. E. Morter. Discussion opened by Dr. S. J. Seeger.

MILWAUKEE COUNTY

The Milwaukee County Medical Society held its regular meeting, February 9th, in the Red room of the Hotel Pfister. Dr. Charles Lyman Greene, professor of medicine at the University of Minnesota, read a most interesting paper on "The Silent and Insidious Heart Lesions of Later Years of Life." Dr. Greene outlined the various diseases of the heart and, through the use of X-ray photographs, illustrated various forms of enlargement of the heart found in persons past middle age.

MILWAUKEE NEURO-PSYCHIATRIC

The members of the Milwaukee Neuro-Psychiatric Society were entertained at a dinner at the Milwaukee Sanitarium, Wauwatosa, Friday, February 23rd, as the guests of Drs. Rock Sleyster and Wm. T. Kradwell. Dr. Smiley Blanton, Madison, who has just returned from studies abroad with Sir Frederick Mott, read a most interesting. paper on "Organic Changes in Dementia Praeeox."

MILWAUKEE OTO-OPHTHALMIC SOCIETY

The annual meeting of the Society was held at the University Club, Jan. 16th. The following officers were elected for 1923: President, Dr. Charles Zimmermann; Vice President, Dr. Claude S. Beebe; Secretary and Treasurer, Dr. Jeffrey J. Brook.

Dr. W. E. Grove read an interesting paper on "Fistulae of the Parotid Gland Following Mastoid Operations."

The regular monthly meeting was held February 20th, 1923. After dinner a very interesting illustrated talk on the "Use of the Actinic Ray, Radiant lamp, Radium and High Frequency Cautery" was given by Dr. T. Howard Plank of Chicago.

PORTAGE COUNTY

A business meeting of the Portage County Medical Society was held in the offices of the president, Dr. F. A. Marrs, Stevens Point, to discuss plans for the spring meeting of the Ninth Councilor District Medical Society, which will be held in Stevens Point in May.

RACINE-KENOSHA MEDICAL-DENTAL

About one hundred physicians and dentists of the dental and medical societies of Racine and Kenosha counties held a joint meeting at the Hotel Racine, February 7th. A lecture on "Diagnosis of Focal Infection by Blood Examination" was given by Dr. Julius A. Torens of Chicago. A lively discussion of the subject occupied the remainder of the evening.

CORRESPONDENCE

March 6, 1923.

To the Editor:

Basic Science Bill 130S will probably be lost. That is my opinion. For all that it means so much to the public, and is backed by the entire medical profession of the state as being for the public welfare, it will probably be lost. To put the matter mercilessly: only a handful of chiropractors and the like weigh more, in the opinion of some legislators, than does the entire medical profession. It has therefore occurred to me that, inasmuch as educated physicians have so little influence with many legislators, the medical profession of each county should unite to itself for political purposes the dental and pharmacal professions of the same areas. These three professions are practically branches of only one, their several interests are largely identical, and, because of their thoroughly scientific training, they are alike able to perceive the necessity for a minimum of education on the part of those who hold themselves out to the public as qualified to treat the sick. The political power, direct and indirect, of such a united body, would be great. Scientific joint meetings of these three professions might or might not be held, as thought advisable. One good rousing political union meeting, however, should be brought about in each county of the state, early in each session of the legislature. Such a meeting, followed by a petition to the legislature signifying what the views of doctors, dentists and druggists alike are, with respect to pending scientific legislation, would, beyond question, have a salutary effect. Careless or callous legislators, for whom the treatment of the sick by stupidly ignorant people seems to be a perfectly proper proceeding, might be able to comprehend the merciless logic of votes and influence.

I am specially moved to write this letter because, a short time ago, there came into my office a young man with syphilis of the optic nerves, who had been treated by a chiropractor until the time during which the sight might easily have been saved had long gone by. This young man is, of course, only one of a large number of those who suffer the hell of total blindness, or other forms of earthly hades, simply and solely because of the thoughtless "liberality" of many of our legislators.

I do not believe that the duty of scientific men can be said to have been done till the union of the three professions above referred to has become an accomplished fact. With such a union the fear, if not the sense or conscience, of a certain class of legislators could probably be awakened.

In union there is strength.

Yours truly,
T. H. Shastid.

TO THE PHYSICIANS OF WISCONSIN.

The Tri-State District Medical Association comprising states of Iowa, Illinois, Wisconsin and Minnesota, and districts of surrounding states intend to run a clinic train East the last two weeks in April.

It is the wish of the organization to give the physicians of the middle west an opportunity to attend the clinics, which are to be conducted by the members of the Teaching Staffs of the following universities: Harvard, Yale, Johns Hopkins, Columbia, Bellevue, Cornell, University of Pennsylvania, Jefferson, Western Reserve, (Cleveland), and the Walter Reed Hospital, Washington, D. C.

The clinics are being arranged in advance so there will be no loss of time, and will cover the different branches of medicine and surgery.

The cost of the trip will be $169.46 for upper, and $173.89 for lower berth, this includes Railroad fare, Pullman service, nine nights in first-class Hotels in the clinic cities and clinic arrangements. The clinitians of the Universities are arranging to give the physicians a fine treat in the way of instruction, and a large number of physicians have already made reservations.

The Association is a Democratic Post-graduate Organization, and any physician in Wisconsin who is in good standing in the State Society will be taken care of if possible on the trip, on conditions that he communicates with the Secretary of the Organization at once in regard to reservation. It will be impossible for us to hold open the reservations for any length of time.

D. G. Smith, Secretary-Treasurer.
M. B. Peck, Managing-Director.

February 10, 1923.

The Editor,
Wisconsin Medical Journal,
Goldsmith Building,
Milwaukee, Wisconsin.

Dear Sir:—

It is the privilege of the Georgetown University in its Biological Section to draw your attention to the enclosed announcement of a prize, calculated to stimulate researches in the etiology, prevention, and treatment of cancer. The Foundress is a member of the Staff of the Georgetown University Hospital. We would kindly ask you to make public this announcement in your journal.

Thanking you in advance for this favor.

Respectfully,
Francis Judy;
Head, Department of Biology.

NEWS ITEMS AND PERSONALS

Dr. M. S. Hosmer, Ashland, has resigned as superintendent of the Pure Air Sanatorium, and Dr. J. M. Conroy has been appointed to succeed him.

Professor William Conrad Roentgen, discoverer of Roentgen Rays, died in Munich, February 12, 1923. Dr. Roentgen was born in Lennep, Prussia, in 1845. Since 1901, he has been professor of experimental physics at Munich.

The fifth of a series of free chest clinics was held in Eau Claire, February ninth, under the auspices of the Wisconsin Anti-Tuberculosis Association. Dr. A. A. Pleyte, Milwaukee, conducted the clinic assisted by local physicians.

A moving picture machine will soon be installed in South View Hospital, Milwaukee, as an experiment to demonstrate the theory that moving pictures in a hospital are a great aid in treatment.

Dr. T. Robinson Bours, Milwaukee, was acquitted of a charge of manslaughter by a jury, February 27th. Dr. Bours was charged with having performed an illegal operation.

The first free clinic in Wisconsin, designed to give attention to orthopedic cases in rehabilitation work, was conducted at St. Mary's Hospital, Oshkosh, by Dr. Frederick J. Gaenslen, Milwaukee. The clinic proved very successful, forty-four cases being presented for examination.

The State Supreme Court has handed down a verdict for the defendant in the case of Fred Rost against Dr. J. A. Roberts, Portage. The case grew out of an X-ray burn alleged to have been sustained by Mr. Rost, while he was under treatment by Dr. Roberts.

Dr. Horace M. Brown, Milwaukee, gave a lecture in Madison, February 20th, on "The Varying Ideas of Different Races and Peoples as to the Anatomic Habitat of the Soul."

Dr. H. T. Brogan, West Allis, was sentenced to one year in the house of correction, following conviction on a charge of manslaughter, growing out of an illegal operation.

Dr. O. Foerster and family, Milwaukee, have left for Daytona, Florida, where they will spend several weeks.

The cleanup sale of old newspapers and magazines conducted by the junior auxiliary of the Milwaukee chapter of the American Red Cross to provide milk for under nourished school children actively operated in 901 rooms of the city and county schools. A total of $1,843.29 was collected through the sale and contributions to the fund.

Final construction work on the installation of equipment is in progress at the new million-dollar tubercular hospital at the Soldiers' Home. The new buildings will be ready for occupancy early in April, acording to Maj. M. W. Snell, who is in charge of the medical department at the home. Maj. B. E. Hedding will be in charge of the hospital. It is the largest and most complete of any similar institution that has been built by the government, and one of the most completely equipped in the world. The total cost of buildings and equipment is estimated at $1,250,000.

Mrs. Charles W. Ott is announced as the president of the Milwaukee Infants' hospital, 477 Bradford avenue. Mrs. Arthur W. Fairchild succeeds Mrs. Ott as recording secretary.

The formal opening of a new unit of the Jackcon Clinic was held February 15. A formal dinner was given at the Madison Club for the out of town speakers, the University Medical Faculty, and the Jackson Clinic professional staff. The scientific program was held in the Lobby of the new building, Dr. Roger Cooksey presiding. Dr. Carl Davis, surgeon at the Presbyterian Hospital, Chicago, gave an illustrated talk on Carcinoma of the Rectum. Dr. W. C. MacCarty, Biopathologist and Director of Laboratories at the Mayo Clinic, spoke on the Relation of the Pathologist to the Practice of Medicine. By the addition of a new building the Clinic now has six new examining rooms, a spacious lobby, a comfortable library with study quarters, and a business office and directors' room.

Dr. Gilbert F. Mueller, Milwaukee, of the Emergency hospital house staff, was given a banquet and farewell dinner by friends Feb. 19. He leaves the city service to enter private practice with offices down town and in West Allis.

Dr. G. V. I. Brown, of Milwaukee, gave a beautifully illustrated talk on Oral Surgery at the weekly meeting of the Jackson Clinic staff, Madison, March 2.

Born Jan. 27, Ruth Marie, daughter of Dr. and Mrs. Elmer H. Gramling, of Milwaukee.

In letters to every state governor and to the United States attorney general, Gov. John J. Blaine urged a mental and physical examination of every war veteran in the state and federal prisons. Under Blaine's orders a survey of the 225 veterans in Wisconsin's state prison and reformatory disclosed the following, his letter said: "Sixty-two per cent of veterans at the state prison were mentally abnormal, and 40 per cent at the reformatory. Forty per cent have physical diseases that need medical attention. Over 20 per cent of the crimes were directly traceable to military service." More than 60 per cent of the veterans were committed for 'trivial offenses" against money and property, arising from disregard for property developed to some extent from war experiences, the report said.

Dr. D. J. Hayes left Feb. 8 to attend the clinical congress of the American College of Surgeons, which will be held aboard ship and in various cities of Central and South America on a cruise of 14,000 miles. At Panama, as guests of the Republic of Panama, the surgeons will attend the ceremony of the laying of the corner stone of the Institute of Tropical Medicine, dedicated to Gen. Gorgas.

Dr. Edgar Craite, of Rice Lake, has been made house physician of Milwaukee Emergency hospital to succeed Dr. Gilbert C. Mueller, who has resigned. Dr. Craite is a graduate of Marquette university at Milwaukee, after which he served as interne at Emergency hospital, later coming to his old home of Rice Lake to practice.

Children of infant and pre-school age in many towns were given physical examinations in February by Dr. Blanche Horner-Rivers, pediatrist of the state board of health, at child health conferences arranged by the state bureau of child welfare. These are in addition to the county health centers financed in part by Sheppard-Towner funds, at which the physician is Dr. Mildred Van Cleve.

Gifts of $3,000 in cash and various pieces of hospital equipment were received by Mt. Sinai hospital, Milwaukee, in their annual donation day campaign on Washington's birthday, according to an announcement made by staff officials.

The rule of the state board of health governing the employment of barbers suffering from communicable skin disease was changed at the recent meeting of the state board of health by striking out the word "skin." Any communicable disease is thus a sufficient cause for barring a barber from working in a shop. Another change made prohibits any barber from working at the trade while suffering from a veneral disease "in a communicable form."

Congestion in St. Nicholas hospital, Sheboygan, the only one in the city, is to be relieved by construction this year of a three story maternity home.

Six additional U. S. Veterans' Bureau hospitals were established during the calendar year of 1922. Three of these hospitals are for tuberculosis patients and have a total of approximately 1,142 beds. Two hospitals with a capacity of 705, are for neuro-psychiatric patients and one hospital is for general cases and can care for 165 patients. In addition to the new hospitals, there were added to existing hospitals under the Bureau, throughout the year a total of 1,072 new beds at different hospital, 300 of which were for neuro-psychiatric cases and the balance for tuberculosis patients.

Construction of a five-story, fire-proof maternity and general hospital to cost about $150,000 and to be built for the Misericordia Sisters at Chestnut and Twenty-second Sts., Milwaukee, will be started April 1. The building, 125 by 42 feet, will be stone trimmed, with a separate power plant and laundry in easy reach of the hospital.

Dr. F. B. Millard, 779 Third St., Milwaukee, was found guilty by Judge Page of being involved in an illegal operation and was fined $500.

Dr. and Mrs. Claude S. Beebe, Milwaukee, have returned from a month's trip to Costa Rica, Jamacia and Cuba.

Expressing his hearty commendation of the splendid service rendered by St. Agnes' Hospital to the community, Dr. G. W. Earle, who recently dispensed $5,000 to local charaities, has given $10,000 toward a fund which is being gathered together for enlarging the hospital and the St. Agnes' School of Nursing. The gift is a memorial to Henry Moore Earle, deceased son of Dr. and Mrs. Earle.

The hospital at Barron, which has been owned and conducted for a long time by Drs. C. C. Post and H. M. Coleman, has been sold to Mr. and Mrs. F. H. Pillar of Duluth, both of whom are experienced sanitarium and hospital people. The new owners propose to put in more modern equipment, including facilities for therapeutic baths, massage and manipulations. Dr. Post established the hospital in 1895.

A longer period of time should be given in state hospitals for the treatment of acute insane according to a report which was sent to the legislature by the state board of control. "At the present time the capacity of the State and Northern hospitals for the insane is about 1,300, divided equally, or nearly so, between the sexes," the report says. "More than that number of insane persons are committed annually to the hospitals for insane, so that the average period of treatment of persons admitted to the hospitals for insane is less than one year. The best authorities claim that the treatment of the average insane person should be continued for a period of two years or more, but under existing conditions these persons cannot be kept in the hospitals for insane more than half the period that is recognized by alienists and psychiatrists as the proper period for treatment. It will, therefore, be necessary to either provide another institution or enlarge the two hospitals for the insane to meet the demands upon them.

The establishment of a pre-natal clinic, employment of a medical social worker to instruct mothers in hygiene, and the opening of a large department of occupational and curative therapy, have marked the year at Mount Sinai hospital, Milwaukee, with an increase of facilities.

Inclusion of women within the scope of Wisconsin eugenic laws which was proposed by the Barber bill before the legislature was defeated by the senate when by a vote of 16 to 12 it killed the proposal.

DEATHS

Dr. George W. Koeppel, Jr., formerly of the staff of Emergency hospital, Milwaukee, died February 18 at his home, 644 Greenfield Avenue, of bronchial pneumonia. Dr. Koeppel was a graduate of Milwaukee Medical college, now the medical department of Marquette university and served in the Milwaukee County hospital and as staff surgeon at Emergency hospital for about a year and a half. He left Emergeney hospital

to study abroad and returned to this country after a year's absence to take up private practice in Milwaukee.

Dr. Jesse Williams, formerly of Waukesha, died at his home in Los Angeles, California, February 12th. Dr. Williams has served as house physician at the Hotel Rosslyn for a number of years.

Dr. H. L. Garner, Rhinelander, died at his home, of pneumonia, February 10th. Dr. Garner was born at Richland Center in 1854, and graduated from the College of Physicians and Surgeons, Keokuk, in 1881. He served with the A. E. F. in France during the World War.

Dr. E. D. Orr of Mt. Hope, Wis., died at his home Sunday morning, February 11, aged 76 years. He was born in the town of Patch Grove, Wis., Dec. 30 1847, and has lived most of his life in Grant County. He graduated from University of Wisconsin in 1875, and from Rush Medical College in 1883. He practiced one year in David City, Nebraska and then located at Mount Hope, Grant County and has ever since practiced there. He belonged to the Grant County Medical Society, Wisconsin State Medical Society and the American Medical Association.

MARRIAGES

Dr. Willard T. Nichols, Milwaukee, to Miss Grace Harrington, Seattle, Washington, February 17, 1923.

Dr. Wm. C. Kirsten, Milwaukee, to Miss Viola Schoenbeck, West Bend, February 3, 1923.

THE DEMONSTRATION OF UNERUPTED HUTCHINSON'S TEETH BY THE ROENTGEN RAY

With a view to determining whether dental aplasia in heredosyphilis is actual or merely apparent, because of impaction or noneruption of the upper central incisors, roentgenograms are being taken by John H. Stokes and Boyd S. Gardner, Rochester Minn. (*Journal A. M. A.*, Jan. 6, 1923), in suitable cases in which the delayed appearance of these teeth suggests the possibility of aplasia. They are not as yet in a position to make a definite statement with regard to the existence of an actual total aplasia in certain cases of heredosyphilis. The intra-alveolar demonstration of as yet unerupted Hutchinson's teeth represented by the case reported seems to have sufficient diagnostic interest to justify a report. A baby girl, aged five months, was seen, with signs of nasal obstruction. What appeared to be a large parapharyngeal fluctuating mass was recognized. On the finding of a strongly positive Wassermann reaction of the blood, the mass was interpreted as probably gummatous. No teeth had as yet appeared. The liver was enlarged. Definite anterior bowing of the tibias and a moderate rachitic rosary were recognized; slight epiphyseal enlargement was also apparent. There was a definite venous ectasia. The blood Wassermann reaction on the patient's mother was strongly positive. Following the administration of six intravenous injections of arsphenamin, this patient was not seen again for five years. In this interval the pharyngeal gumma had completely involuted, the infection had become quiescent, the child had become fairly robust, and while she still displayed osseous stigmas suggestive of heredosyphilis, the Wassermann reaction was now repeatedly negative. At the time of her reexamination, the upper central incisors were absent and the mother said that the first dentition teeth had been poor and had decayed rapidly. In the effort to determine whether an aplasia of the second dentition upper central incisors existed, a roentgenogram was made. The Hutchinson characteristics of the unerupted teeth were easily apparent, particularly the lateral bulging and the notch.

THE ROENTGEN RAY IN TONSILLAR DISEASE.

The cases treated by roentgen-ray therapy on which Francis L. Lederer, Chicago (*Journal A. M. A.*, Sept. 30, 1922), reports were those representing every type of tonsillar disease, and in patients of varying ages. In no case have any marked changes been observed, and only in children with the typical hypertrophied tonsils has even a slight change in size been noted. Patients with infected tonsils with the usual recurrent attacks of tonsillitis were seemingly benefited for a period, only to have a recurrence of the attack. These cryptic tonsils, with the usual infectious material which they harbor, were controlled bacteriologically and found not to have been affected by the roentgen ray. The type of tonsil which has, through disease and age, undergone a fibrosis is but little affected by this therapy. Encouraging results have been obtained not so much objectively as from the alleviation of subjective symptoms, in that type of child whose larynx is filled with lymphoid hyperplasia. The procedure, therefore, is not without some danger.

CLINICAL STUDIES OF QUINIDIN.

A summary of the untoward effects of quinidin administration is made by Robert L. Levy, New York (*Journal A. M. A.*, Sept. 30, 1922). It is clear that not every patient suffering from fibrillation of the auricles should receive this drug. Persons with conspicuous cardiac enlargement, that is, with apex impulse outside the nipple line, and particularly if there are multiple valve lesions, are least likely to respond with normal rhythm. Such enlargement may be taken to indicate serious derangement of cardiac mechanics by valvular disease or of extensive myocardial involvement, or both. It is in these cases also that ventricular tachycardia occasionally occurs. Patients with but little cardiac enlargement and without signs of valvular defect have, in Levy's experience, done well. A careful study of the patient's symptoms while the drug is being given may also be of value. When unpleasant sensations are com-

plained of early in the course of treatment, and persist or recur with further administration, it is probable that normal rhythm will not be restored, or, if established, will be present for only a short time. It is in these cases also that ventricular tachycardia is likely to ensue. The occurrence of unpleasant symptoms may likewise serve as a guide by means of which cases of sudden collapse, as described by Frey, may be avoided. At all events, little is to be gained and possibly harm may be done, by persisting with therapy in the face of complaint of serious discomfort by the patient. Careful clinical study of patients with auricular fibrillation will serve to set apart a certain number unsuitable for quinidin treatment. The carrying out of therapy in bed, in a hospital, preferably under graphic control, will further safeguard against accidents. Levy emphasizes again that, "carefully administered, this drug is a therapeutic agent of great value; indiscriminately given, it may, on occasion, be expected to cause disastrous results."

ANTITOXIN AND TOXIN-ANTITOXIN.

The most important feature of products of this class is the accuracy with which they are standardized. Fortunately, both the diphtheria antitoxin and the prophylactic mixture admit of accurate standardization. The U. S. Public Health Service has fixed the toxin standard, and the antitoxin is standardized by being administered to test animals with the toxin in accurately graded amounts. Some of the animals die and some survive; and there is no element of chance in the test, for the animals themselves are standardized—by weight and otherwise.

Evidently the profession has no means of gauging the reliability of a diphtheria antitoxin or of a toxin-antitoxin mixture offered for sale except the reputation of the laboratory producing it. Even previous experience is not a reliable guide, for unless successive lots are uniform it signifies nothing. The label is a printed guaranty of quality, the value of which depends entirely upon the good name of the house whose signature it bears. Manifestly the physician must take the manufacturer's word for it. Hence the advisability of specifying on orders a producer that stands high in the confidence of physicians on general grounds—whose products as a whole bear the hallmark of quality.

Both Antitoxin and Toxin-Antitoxin are referred to in the advertisement of Parke, Davis & Co., appearing elsewhere in this issue.

FALLIBILITY OF ROENTGENOLOGIC EVIDENCE OF HEALED GASTRIC ULCER

Edward Hollander, New York, (*Journal A. M. A.*, Jan. 6, 1923), asserts that it is difficult to prove the curative effect of medical treatment of chronic gastric ulcer because of the spontaneous remissions in symptoms that so frequently characterize the disease. Such patients consider themselves cured until a sudden relapse indicates that the disease still exists. However, in such cases, the view is also tenable that the old ulcer had healed, and a new one formed owing to the activity of the original etiologic agent. The study of the changes in gastric secretion or motility that follow medical treatment can give no results that are conclusive of cure, since there are no findings in the secretory or motor functions of the stomach that are pathognomonic for peptic ulcer. Roentgenologic examination (with a small percentage of error in mistaking a projection due to peristalsis or adhesions for a true niche), affords a method of obtaining definite objective record of morphologic changes in the surface of an ulcer. It seems reasonable to interpret the diminution in size or the total disappearance of a niche as evidence of healing or cure, especially when these changes are accompanied by clinical evidence of improvement, and by other roentgenologic findings, such as the disappearance of an incisure, and improved motility. However, the case presented shows that this interpretation is open to error. There are causes for the disappearance of a niche other than the obliteration of an ulcer crater by granulation or cicatricial tissue. Food may enter the crater. In the case presented, mucoid material filled the crater. These facts, and also the knowledge that there are frequent remissions in symptoms in this disease, emphasize the need of a long period of observation (Moynihan suggests three years) before drawing any definite conclusions regarding the medical cure of a chronic gastric ulcer.

TREATMENT OF TUBERCULOUS CERVICAL ADENITIS.

Richard H. Miller, Boston (*Journal A. M. A.*, July 29, 1922), states that there is no certain therapeutic agent, no absolute specific, and no set rule for treating tuberculous cervical adenitis. To lay down a definite scheme and treat every case thereby is, in his opinion, not productive of the best results. Each patient must be carefully studied and considered as an individual, and then, by the judicious application of five chief methods, hygiene, light, radiation, surgery and tuberculin, either singly or in combination (for each has its place), it will be possible to approach, as nearly as possible, a therapeutic goal. When a diagnosis of tuberculous adenitis is made, hygiene and mode of living are investigated, and corrected as indicated. The tonsils and adenoids are removed, unless contraindicated. Acute abscesses are drained. Discrete cold abscesses without acute superimposed infection are opened through a small incision, and drained for a few days with a small rubber tube. Patients with chronic discharging sinuses are treated with tuberculin plus the mercury vapor quartz lamp. Discrete localized glands are at the outset either removed or treated with tuberculin. Extensive disseminated glands, and those showing deep involvement, are treated with tuberculin. If this fails then roentgen ray is tried, and lastly operation.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Diseases of the Nervous System. By Smith Ely Jelliffe, M. D., and Wm. A. White, M. D. 4th edition. Lea & Febiger, Philadelphia. 1923. Price, $9.50.

Lawson Tait—His Life and Work. By W. J. Stewart McKay. Wm. Wood & Co., New York. Illustrated 1922.

Impotency, Sterility and Artificial Impregnation. By Frank P. Davis. M. D. 2nd edition. C. V. Mosby Co., St. Louis. 1923. Price, $2.25.

Clinical Laboratory Methods. By Russell Landram Haden, M. D. 69 illustrations; 5 color plates. C. V. Mosby Co., St. Louis. 1923. Price, $3.75

A Study of American Intelligence. By Carl C. Brigham, Ph.D. Princeton University Press, Princeton, N. J. 1923. Price, $3.50.

Functional Nervous Disorders—Their Classification and Treatment. By Donald E. Core, M. D., Manchester, England. Wm. Wood & Co., New York. 1922.

Character Revelations of Mind and Body. By Gerald Elton Fosbroke. G. P. Putnam's Sons, New York. 1922.

Insanity and the Criminal Law. By Wm. A. White, M. D. The Macmillan Co., New York. 1923. Price, $2.50.

Sex and Dreams. By Wm. Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

The Homosexual Neurosis. By Wm. Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

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Textbook of Anatomy and Physiology for Training Schools and Educational Institutions. By Elizabeth R. Bundy, M. D. P. Blakiston's Son & Co., Philadelphia. 1923. Price, $2.50.

Biology of Sex. By T. W. Galloway, Ph.D. Revised. D. C. Heath & Co., Boston. 150 pp. 1923.

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History of the Psychopathic Hospital, Boston. By L. Vernon Briggs and Collaborators. L. Vernon Briggs, M. D., 64 Beacon St., Boston, Publisher.

The Physiology of Reproduction. By F. H. A. Marshall, D. Sc. Illustrated. 2nd edition. 770 pp. Longmans, Green & Co., New York. 1922. Price, $12.00.

Exercise and Education and Medicine. By R. Tait McKenzie, M. D., LL.D., Professor of Physical Education and Physical Therapy and Director of the Department of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 445 illustrations. Philadelphia and London. W. B. Saunders Company. 1922. Cloth, $5.00, net.

The Successful Physician. By Verlin C. Thomas, M. D. Visiting Physician to Franklin Hospital, San Francisco. Octavo of 303 pages. Philadelphia and London. W. B. Saunders Company. 1923. Cloth, $4.00.

Practical Physiological Chemistry. By Philip B. Hawk, Jefferson Medical College, Philadelphia. Eighth edition revised, with six full-page color plates and some 200 illustrations. Philadelphia. P. Blakiston's Son & Company. Price, $5.00.

Practical Handbook on Diseases of Children. By Bernard Myers, M. D. Sixty-one illustrations. Philadelphia. B. Blakiston's Son & Company. Price, $5.00.

The Constitutional Factors in Dementia Precox. By Nolan D. C. Lewis, M. D. Nervous and Mental Disease Publishing Company, New York and Washington. 1923. Price, $3.00.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillan Company. New York. 1922.

The Psychology of Misconduct, Vice and Crime. By Bernard Hollander, M. D. New York. The Macmillan Company. 1923.

Recipes for Institutions. The Macmillian Company. New York. Price, $1.50.

Principles and Practice of Infant Feeding. By Julius H. Hess, M. D. 460 pages. F. A. Davis Company. Philadelphia. Price, $4.50.

The Cruise of the Snark. By Jack London. Illustrated. The Macmillan Company. New York. Price, $2.50.

Thyroid and Thymus. By André Crotti, M. D., F. A. C. S., LL. D. 2d Edition thoroughly revised, with 105 illustrations and 39 plates in colors. Lea & Febiger, Philadelphia and New York. 1922. Price, $15.00.

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M. D., St. Paul. 5th Edition revised and enlarged. 14 color plates and 623 other illustrations. Philadelphia. P. Blakiston's Son & Co. 1922. Price, $12.00.

Diseases of the Ear, Nose and Throat. By Wendell Christopher Phillips, M. D. 6th Edition, illustrated with 578 halftone engravings and 37 full page plates. F. A. Davis Co., Philadelphia. 1922.

Premature and Congenitally Diseased Infants. By Julius H. Hess, M. D. Illustrated with 189 engravings. Lea & Febiger, Philadelphia and New York. 1922. Price, $5.50.

Problems in Dynamic Psychology. By John T. MacCurdy, M. D. The Macmillian Co., New York. 1922.

A Manual of Diseases of the Eye, Nose and Throat. By Cornelius G. Coakley, A. M., M. D. 6th Edition, revised and enlarged. Illustrated with 145 engravings

and 7 color plates. Lea & Febiger, New York and Philadelphia. 1922. Price, $4.25.

The Medical Clinics of North America (New York Number). Vol. VI, No. III, November, 1922. By New York Internists. Octavo of 365 pages and 21 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, $12.00; Cloth, $16.00 net. W. B. Saunders Company, Philadelphia and London.

The Golden Bough, A Study in Magic and Religion. By Sir James George Frazer. The Macmillan Co., New York. 1922. Price, $5.00.

Constantinople Today, or the Pathfinder Survey of Constantinople. A Study in Oriental Social Life. Under the direction of Clarence Richard Johnson, M. A. The Macmillan Co., New York. 1922. Price, $5.00.

Some Impressions of My Elders. By St. John G. Ervine. The Macmillan Co., New York. 1922. Price, $2.25.

A More Honorable Man. By Arthur Somers Roche. The Macmillan Company, New York. Price, $2.00.

The Red Redmaynes. By Eden Phillpotts. The Macmillan Company, Philadelphia.

BOOK REVIEWS

The Treatment of Fractures. The New (9th) Edition, Revised. With notes upon a few common dislocations. By Charles L. Scudder, M. D., Assistant Professor of Surgery at the Harvard Medical School. Ninth edition, revised. Octavo volume of 749 pages, with 1252 illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Polished Buckram, $8.50.

Dr. Scudder's new edition of his treatment of fractures scarcely needs any praise or comment, as the book has been looked upon and used as a standard text and authority on fractures for many years. His illustrations and anatomical considerations are as clear and vivid as one could hope for in studying or reviewing this most important branch of surgery.

Diseases of the Nervous System. By Smith Ely Jelliffe, M. D., and William A. White, M. D. Fourth edition. Lea & Febiger, Philadelphia. 1923. Price, $9.50.

Since the first issue of this work in 1915, it has commanded a place in the very front ranks as a standard and unexcelled text on neurology and psychiatry—no American authorities have contributed more to the advancement of this special field than have its distinguished authors. Previous editions have been highly praised in detail in this *Journal.* The fourth edition has been carefully gone over, much new matter added and portions have been entirely rewritten. It is illustrated with 475 engravings and thirteen colored plates. The whole subject is presented by Jelliffe and White in a way that is "different" and the student, who first reads carefully the "introduction", will approach the subject from a new angle and with a different conception than one receives from the usual text.

Lawson Tait—*His Life and Work.* By W. J. Stewart McKay. Wm. Wood & Co., New York. Illustrated. 1922.

In his preface, the author states: "To give an outline of the life and work of Lawson Tait, to record some steps in the evolution of gynecology, and lastly, to show that Tait was the founder of modern abdominal surgery, are my reasons for writing this book."

The book is divided into two general parts, the first telling of what was known about any subject before Tait specially dealt with it, the second giving an account of Tait's method of operating and telling of his private life. The author is well qualified to be his biographer as he served as his assistant at Birmingham. Lawson Tait was a great personality and a pioneer. William Mayo has called him the "father of modern abdominal surgery"; Kelly and Hudson, "that great pioneer in our art".

Dr. McKay has given us a most interesting and readable memorial to this great man and it should bring home to the younger generation what this master did for abdominal surgery. It is splendidly illustrated, beautifully bound and the publishers are to be congratulated on an artistic product.

Impotency, Sterility and Artificial Impregnation. By Frank P. Davis, M. D. Second edition. C. V. Mosby Co., St. Louis. 1923. Price, $2.25.

This work treats with the sexual instinct, the senses in their relation to it, impotency, race suicide, sterility, artificial impregnation, etc. The present edition has been practically re-written and contains two new chapters.

Clinical Laboratory Methods. By Russell Laudram Haden, M. D. 69 illustrations, 5 color plates. C. V. Mosby Co., St. Louis. 1923. Price, $3.75.

This little volume is offered to physicians and laboratory workers as a series of procedures which have been thoroughly tried out and found to give accurate results. Exhaustive and different methods are not given but the work is confined to one known and tried way of proven worth. The book is concise, handy and to the point and the busy physician and ordinary laboratory worker interested in quick and safe procedures will surely welcome it.

A Study of American Intelligence. By Carl C. Brigham, Ph. D. Princeton University Pres, Princeton, N. J. 1923. Price, $3.50.

This study is a continuation of the work of the small group of psychologists who carried on the difficult task of analysing the data from the army psychological examinations in the office of the Surgeon General. It

gives the Army tests and a statistical analysis of the Army test results. It is a study well done indeed and the world is indebted to Dr. Brigham for the results. Such conclusions drawn as that the average intelligence of our immigrants is declining and that we are getting progressively lower and lower types from each nativity group or race shows, when proven, the importance of a work of this character.

Functional Nervous Disorders—*Their Classification and Treatment.* By Donald E. Core, M. D., Manchester, England. Wm. Wood & Co., New York. 1922.

We are gradually awakening to a realization of the importance of the functional nervous disorders in present day medicine. We have here a most excellent English presentation of the subject by a teacher in the Victoria University of Manchester.

The subject is taken up under six general headings, i.e., "General Considerations," "The Regressive Group," "The Progressive or Sympathetic Group," "General Considerations," "Diagnosis and Prognosis," and "Treatment." Worthy of more than passing comment is especially the author's consideration of hysteria, and this section alone would justify its purchase for the library of any practitioner.

Character Revelations of Mind and Body. By Gerald Elton Fosbroke. G. P. Putnam's Sons, New York. 1922.

This volume gives the author's methods for the study of character as indicated in the face "as a result of mental and bodily reactions." It could not be called a scientific treatise by any means, but it carries a certain interest and will be of a certain value to executive and others for we will all agree that the head and face possess a certain significance in revealing personality.

Insanity and the Criminal Law. By William A. White, M. D. The Macmillan Co., New York. 1923. Price, $2.50.

The author sets forth his opinion that 'the time has arrived for the law to take some cognizance of what has been accomplished" through the practical application of modern psychiatry to the problems of human behavior and adjustment. He shows why this is feasible and how it can be done.

Such subjects are covered as crime, the criminal, expert testimony, prejudice, the hypothetical question, responsibility, tests of insanity, the nature and functions of the law, the expert and the argument. Of course, we always expect much of Doctor White and he has not fallen short. This is decidedly worth while and it is to be hoped this work will be widely read by the legal as well as medical profession.

Sex and Dreams. By William Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

The interpretation of dreams and their sex significance is an aid in the study of nervous ills, which the modern school psychotherapeutist appreciates as an essential part of his work. This publication is intended as a guide to the interpretation of the unconscious for those professionally concerned with nervous diseases. It correlates the subject's dreams with the neurotic traits and will help the physician to solve many a baffling case.

Dr. Stekel is, through his previous work, too well known in this field of endeavor to need comment in this department. He handles his subjects in an earnest, scientific and convincing manner and his researches are followed closely by his American admirers. "Sex and Dreams" is a volume of some three hundred pages —the subject clinically treated and teeming with interest and a wealth of helpful suggestions.

The Homosexual Neurosis. By William Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

This volume completes the English version of the "Homosexualität" of Stekel's "Onanie and Homosexualität," the first portion having been published under the title "Bisexual Love." The translation of the part dealing with autoerotism, we are told, will shortly appear. This will complete one of the most important works available on clinical psychopathology in an English translation and in unabridged form. The set of all three volumes is well worth a place in any physician's library and is sold only to the profession, of course. Through them, the work should be brought to the attention of the clergy, the teacher and the criminologist.

We are still in the dark ages—for nothing could be more backward or stupid than society's utter lack of understanding of such conduct reactions as are here explained. It is the plain duty of the medical profession to gain a knowledge of this subject and to recognize the pathology of these conditions.

Mental Causes of Accidents. By Boyd Fisher. The Houghton Mifflin Co., Boston. 1922. Price, $2.50.

The author, through wide experience in industrial management in many large plants, has made a careful study and analysis of the psychological side of industrial accidents. Few have appreciated the importance of this phase of so important a subject. The contents cover the puzzled mind, the misguided, the stubborn, the involuntary, the diverted, the physical, the tired and the troubled mind. You who are constantly coming in contact with accidents of this kind and with adjustments with the Industrial Commission should read Mr. Fisher's "Mental Causes of Accidents."

The History of Medicine. By Walter Libby, M. A., Ph. D. Houghton, Mifflin Co., Boston. Illustrated. 1922. Price, $3.00.

Dr. Libby, who has lectured at many of the leading

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universities and is an international authority on the history of medicine, has in 425 pages given us a most charming story of the salient features of medical history. It is a complete work and covers the time from the priest physicians of Egypt and Babylonia down to the present day. A generous amount of biographical material is given concerning the great discoverers. Unless you own Garrison, you can not afford not to own this work and if you do and have read it, you will want Libby as well.

Judging Human Character. By H. L. Hollingworth. D. Appleton & Co., New York. 268 pages. 1923.

This is a work by the Professor of Psychology at Columbia University on "How to estimate the character of one's friends, associates and acquaintances in businses and in social life," and is taken from a series of lectures on vocational and industrial psychology. It is most highly recommended as a non-technical survery of the accepted methods which can be used in the appraisal of human traits. It will be found of inestimable value to anyone in helping to solve life's contacts with others.

Your Inner Self. By Louis E. Bisch, M. D. Doubleday, Page & Co., Garden City, N. J. 190 pages. 1922.

A work by Dr. Bisch with an introduction by William A. White should in itself be a sufficient guarantee of its worth. It has been written to "simplify the terms and clarify the significance of psychoanalysis," a science which many have found most obscure. It will surely help any reader to gain a better knowledge and understanding of what is to him the most important problem in the work, i. e., himself. The physician is advised to purchase it, read it carefully, and then reflect on the great number of patients to whom this work will be a help.

Textbook of Anatomy and Physiology for Training Schools and Educational Institutions. By Elizabeth R. Bundy, M. D. P. Blakiston's Son & Co., Philadelphia. 1923. Price, $2.50.

This is the fifth edition of what has been accepted as a standard text on the subject for our training schools. It has been brought up to date by additions and rewriting of sections on physiology of digestion, the ductless glands, etc. It is splendidly illustrated with 266 illustrations, 46 of which are in color. It maintains the same high standard of previous editions.

Biology of Sex. By T. W. Galloway, Ph. D. Revised, D. C. Heath & Co., Boston. 150 pp. 1923

Here is indeed a sex instruction book which solves the question of sex instruction for children. The subject matter first given as a series of talks to meetings of mothers and teachers has been published that it may reach a larger audience. Recommend it to your teachers, parents and other lay people in need of some knowledge themselves before they attempt to instruct.

Greek Biology and Medicine. By Henry Asborn Taylor. Marshall Jones Co., Boston. 150 pp. 1923.

The object of this little monograph is to indicate the debt of the modern world to the ancient biology and medicine which, of course, is Greek. The work will be a revelation to many readers for few realize the amazing advance made by the early Greeks or appreciate the extent of our indebtedness to Hippocrates, Aristotle and Galen. You will not regret the purchase of Doctor Taylor's work.

History of the Psychopathic Hospital, Boston. By L. Vernon Briggs and collaborators. L. Vernon Briggs, M. D., 64 Beacon St., Boston, Publisher.

This history, dedicated to the memory of the late Elmer E. Southard, M. D., first Director of the Hospital, should be read by all interested in the development of the care of the insane. We are greatly indebted to Dr. Briggs for his painstaking labor in the production of this work. It chronicles the fight, step by step, of a few pioneers in overcoming criminal indifference and bettering an intolerable condition.

The Physiology of Reproduction. By F. H. A. Marshall, D. Sc. Illustrated. Second edition. 770 pp. 1922. Longmans, Green & Co., New York. Price, $12.00.

This splendid work is, to the best of our knowledge, unsurpassed in any language. It is a most complete and comprehensive treatise on the physiology of the reproductive and sexual processes as they occur in the higher animals, including man. Recent work on sex-determination, the internal secretory functions of reproductive glands, on the cause of birth and on the biochemistry of the sexual organs are included in the general survey. The breeding phenomena of the higher vertebrates are dealt with comparatively and in detail and there are chapters on the mammary glands, fertility and the phases in the life of the individual.

The new edition has been thoroughly revised and brought up to date. New material has been added. Here is a work with a strong appeal to physiologists, gynecologists, zoologists and to all who are interested in the study of sex and the processes of animal breeding. This work is a classic on the subject and will doubtless remain so for many a year to come.

The Wisconsin Medical Journal

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ORIGINAL ARTICLES.

MYOCARDIAL DEFICIENCY FROM A SURGICAL STANDPOINT.*

BY J. L. YATES, M. D., M. F. ROGERS, M. D., AND R. E. MORTER, M. D.,

MILWAUKEE.

A more general and keener appreciation of the moral and economic values of individual effort is one of the most beneficent results of war experiences. Thus the realization has come earlier that development, conservation and rehabilitation of function are the objectives of medicine. Consequently, the chief therapeutic aim is to extend the period of most productive activity, which frequently is after fifty, rather than merely to prolong life.

A notion, popularized by Osler, that productivity terminates in the forties, has been unfortunately influential. Much of the world's best work has been, is being done and will the more be done by those well past the age, set in jest by Sir William, for chloroform euthanasia. We have too long accepted a dictum that a man is as old as his arteries without considering the more significant fact, that age itself is of little moment. The real issue is total accomplishment, which is commensurate with the length and character of life and is determined largely by the functional capacity of heart muscle.

Vital statistics indicate to a limited degree the sinister effects of myocardial deficiency upon modern life. Diseases of the heart have become one of the commonest recognized causes of death and at times, in industrial communities particularly, they are the commonest. Even granting more than a full quota of statistical errors, the numbers registered are too low; first, because they are largely based upon valvular lesions (1), and second, because of the many deaths attributed for example to infections, injuries, childbirth and operations wherein the actual determining lethal factor had been pre-existing myocardial defects with consequent reduction in reserve myocardial energy—a narrowed margin of safety.

Innumberable individuals have demonstrated the capability of relatively healthy heart muscle to cope successfully with handicaps such as valve defects or long continued arterial hypertension, and its inability, if injured, to deliver the heart power required for normal existence even when the balance of the circulatory mechanism was virtually normal. In short, individuals are born with a definite potentiality for myocardial energy which may be developed and maintained at its maximum or may be dissipated. Lesser demands of life require an expenditure of currency energy; greater demands, occasioned by unusual mental or physical effort and by disease, call for reserve or potential energy. The amount of available potential energy measures ability to live beyond the limitations of the sedentary or the bedridden. Manifestly the largest supply of heart muscle energy, the widest margin of safety, is invaluable.

The surest way to practical solutions of the many problems inherent in the prevention and relief of cardiac malfunction is to recognize nature's methods of adaptation to handicaps. Thus alone is it possible to develop measures that will secure the least unfavorable working conditions for the heart which are far superior to attempts at artificial control of the heart's action, usually harmful and often futile, but supposed to meet disadvantages to which the circulation is already reacting naturally and as effectively as circumstances permit.

Presumably, the circulatory apparatus has been developed to deliver an excess of blood and lymph in the most economic manner, i. e., with the least expenditure of energy and with the largest opportunity for recuperation of the energy expended. Under normal conditions the requisite pressures are maintained by that co-ordination of the force and rate of heart muscle contractions best suited to the individual. Various factors—psychic, nervous inhibition and acceleration, mechanical, thermal, hydraulic and chemical—all enter into this

*Read before the State Medical Society of Wisconsin Sept. 6, 1922, and before the Tri-State Medical Society Nov. 2, 1922.

co-ordination. The tonicity of the chambers of the heart measures the functional capacity of each (2), and to a degree, that of the entire organ somewhat as a weak link determines a chain's strength.

Under abnormal conditions the co-ordination of force and rate of contractions is less favorable though probably the most economic possible at that time for that individual. No matter which controlling factor or factors may be responsible for disintegrating the circulatory apparatus, there is this effect, a relative increase in expenditure of energy with a relative reduction in recuperation, and, in consequence, an expenditure of reserve energy. Whether the process is protracted and hypertrophy develops, or whether there is not time for this compensatory adjustment, if the provocation persists, the total available energy becomes inadequate to provide the contraction power required to continue the most favorable co-ordination of force and rate. Then, in order to maintain blood pressure compatible with life, the rate of contraction increases to supply the deficit of force. Thus is initiated a progressive tachycardia which, unchecked, ends in cardiac exhaustion.

Cardiac competence depends upon myocardial ability to receive, to transmit and to respond to stimuli so that blood pressures, adequate to supply the needs of the body, are maintained by expenditure and replacement of currency energy without reduction in reserve energy. The basis of functional competencce is anatomic integrity.

The causes of cardiac incompetence or myocardial deficiency are heart muscle lesions which vary from the earliest phase of degeneration, possibly cloudy swelling, to necrosis and fibrosis. Their deleterious effects upon function are commensurate with the acuteness and diffuseness of the process, or, when focalized, with the significance of the role played in cardiac function by the part affected. Acute lesions are more dangerous than chronic because adaptation is less possible. They are most dangerous when added to pre-existing chronic changes such as hypertrophy, fibrosis or atonicity.

Influences inimical to normal heart muscle structure are overactivity, inadequate nourishment and intoxication. They frequently operate in conjunction and are likely to initiate or aggravate progressive anatomic lesions and therefore to promote increasing cardiac handicaps.

Myocardial deficiency due to overexertion or under-rest is proportionate to the nature and duration of conditions provoking hypernormal myocardial metabolism and is commensurate primarily with the reduction in reserve energy inevitable with hypertrophy, and secondarily to restricted currency energy or actual power, concommitant with degeneration and atonicity. Fatigue injuries to heart muscle result from (a) occupations requiring an expenditure of energy in excess of that recuperated during rest periods which includes athletic overactivities; (b) fevers; (c) hyperthyroidism; (d) psychoneuroses; (e) intrinsic circulatory handicaps (valve lesions, pericarditis with effusion or with adhesions, and arterial hypertension); (f) extrinsic circulatory handicaps largely confined to the lesser circulation and produced by emphysema, fibrosis (3) consolidation and tumors of the lung, by pleural or mediastinal exudates or tumors (4), or by parietal deformities especially of the diaphragm. In brief, factors which reduce vital capacity offer obstruction to the pulmonary circulation or vice versa (5), and in turn overburden the right heart which often, indeed far more often than is accepted, becomes the weak link in the circulatory chain (6).

Under-nourishment, particularly dehydration of heart muscle, may be focal and due to restricted coronary circulation or result from deficiencies in the blood delivered as in anemia, in starvation inclusive of rigid diets used therapeutically, or from faulty metabolism. Early in the more acute phases of cardiac crises there is adequate nourishment and water in the blood for normal heart muscle (7). Later when pressures have fallen so that the velocity of the blood stream is reduced and the blood actually in circulation has become overconcentrated and its volume lessened (8), it is improbable that injured muscle can obtain adequate fuel. Serious effects of myocardial under-nourishment are frequently seen when acute myocardial injuries, e. g., narcotic intoxication and recent intense infections such as tonsillitis, are added to a chronic form due to prolonged somatic under-nourishment or to more acute forms resulting from over-exertion and dehydration. The latter was much in evidence in soldiers wounded

after continued marching or fighting in hot weather.

Heart muscle intoxicants are bacterial (venoms), the products of deranged metabolism and drugs. Toxines resulting from acute infections are likely to cause less permanent damage to heart muscle than those coming from chronic focal infections, e. g., teeth, tonsils, sinuses, otitis media, intestinal stasis, etc. The most serious seem to be those located in the bile tract, particularly when associated with jaundice.

Tissue degenerations with and without the concomitant action of bacteria, such as occur in intestinal obstruction and infarctions, skin burns, crushing injuries to muscle, the abuse of tourniquets and necroses in tumors, liberate substances into the circulation that are viciously injurious. More recently another harmful influence has been developed in X-ray and radium therapy. All practitioners of medicine are directly concerned in the effect of drugs. Bunting (9) found that the narcotics—opium, chloroform, ether and nitrous oxide—all produce acute degeneration of heart muscle. Anesthesia without operation sufficed to cause death in animals having chronic myocarditis. To these may be added alcohol, tobacco and many of the coal tar products. It is quite possible that the effect of injuries inflicted by intoxicants through interference with intracellular metabolism are twofold—reductions both in contractibility and in conductivity.

Nowhere in medicine is prevention of disease more desirable than in heart muscle, nowhere is it as certain to exceed the value of cure by the proverbial sixteenfold. A shortcoming of medical specialization has been a narrowing influence upon specialists. Remote effects of local disease, early indications for treatment, and the ultimate good and evil results thereof have been unrecognized or have been considered of too little moment compared to the immediate comfort and satisfaction of patients as well as those interested in them.

The preceding summary of the causes and effects of myocardial injuries suffices to indicate the opportunities and responsibilities of all actively interested in medicine. Likewise it is evident that those practicing surgical specialties are particularly obligated to employ methods likely to afford protection or relief and unlikely to inflict or to increase injury.

Due consideration of the heart muscle factor in disease and in treatment automatically classifies surgical patients in four groups: (a) those having intact hearts, (b) those having recoverable myocardial lesions if sources of irritation are properly eliminated, (c) those suffering from lesions whose progress can be arrested or retarded, and (d) those demanding surgical relief from pain and distress in the face of cardiac handicaps that preclude usual operative methods.

Reduced to simple terms, the requirements to be met in practice are two—diagnostic means to determine the presence and degree of myocardial injuries and a simplification of preoperative, operative and postoperative methods designed to safeguard the more severe lesions and to be at least harmless for the less severe.

Satisfactorily accurate diagnoses of degrees of cardiac incompetence are as yet impossible because there is no means of determining that most important factor, the amount of reserve power. The best index of cardiac ability to withstand the extraordinary strains of narcosis and operation is its capability to respond naturally to slightly increased physical exertion, supplemented by careful considerations of history and of physical findings.

Recognition of valve lesions or of myocarditis in the general acceptance of that term is of less consequence than an appreciation of probable or possible reduction in power which may be extensive and yet independent of lesions now recognized by necropsy pathologists.

History of one or more of the etiologic factors in myocardial injury disclosed by age, habits, occupation and illness is signficant but less so than unwarranted cardiac dyspnoea and tachycardia with exertion and edema thereafter.

Cardiac enlargement positively indicates myocardial deficiency but not its degree. Hypertrophy is not a sign of seriously reduced power. Atonicity and dilatation are proofs of a dangerous reduction. Hypertrophy and dilatation may coexist in variable proportions. On the other hand a normal-sized heart may be atonic and on the verge of dilatation, if the damage is recent and severe, and slight additional stress would induce serious incompetence.

Modification of heart sounds, especially muffling of the first sound at apex when not attributable to impaired conduction through the overlying tissues, is very suggestive, as is gallop rhythm.

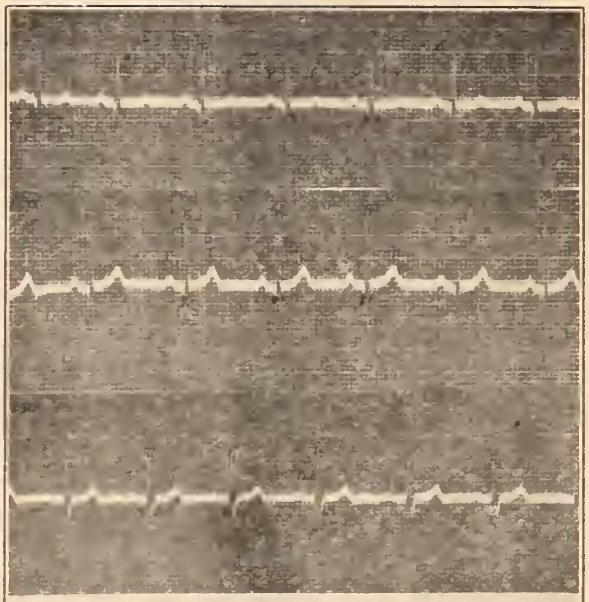

Fig. 1 Normal Electrocardiogram. L I-II-III are the three leads. P represents auricular activity. P-R does not exceed .18 sec. Q-R-S-T represents ventricular activity. R reveals no notching. Q-S does not exceed .08 sec.

Functional tests are more reliable. A delayed rise in blood pressure response to exercise indicates undue myocardial fatigue. Estimations of both blood pressure and pulse rate reactions to moderate exertion are more dependable in giving clues to the force and rate of contractions and adaptive capability, than observations of variations only in pulse rate.

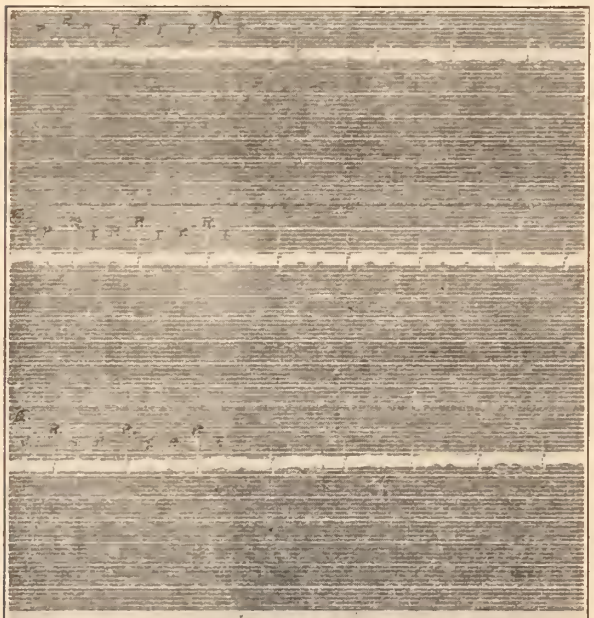

Fig. 2. The excitation wave is transmitted from auricle to ventricle through A-V node and bundle of His. A normal P-R interval occupies .18 sec. Here P-R is delayed consuming .28 sec.

The chief value of electrocardiography (Fig. 1) lies in the discovery of lesions affecting special conducting structures of the heart, the His bundle and its branches, which pass through the ventricular myocardia and terminate in the ventricular subendocardia. The tracings also may indicate myocardial as well as conduction tissue lesions, but, on the other hand, lesions in silent areas away from conducting elements may not be revealed.

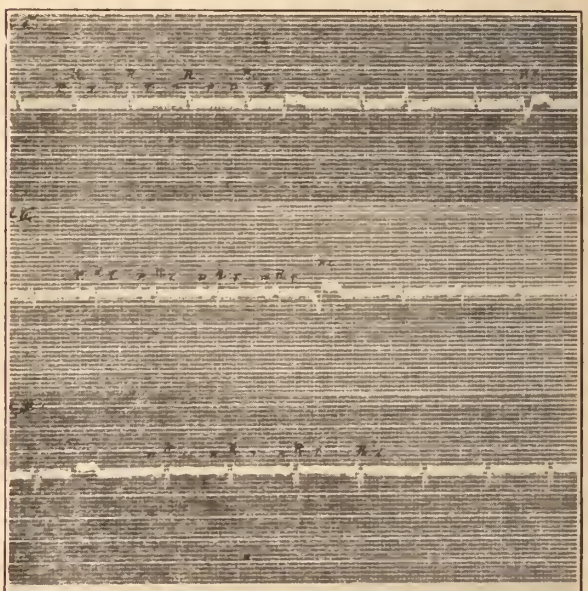

Fig. 3A. Electrocardiogram revealing notched R complex in all leads. Q-S interval at outer limits of normal. Note isolated ventricular premature contractions.

One of two important electrocardiographic abnormalities may be encountered—a prolongation of the "P-R" interval, i. e., an increased "A-V" conduction time—when not of vagal origin (Fig. 2), or a bizarre notched "R" complex with increased "Q-S" interval (Figs. 3, A and B), i. e., prolonged intraventricular conduction time, the excitation wave taking an abnormal course through the terminal (Purkinje) fibers. These evidences of disturbed conduction may be due to transient (recoverable) or permanent lesions, and are therefore indicative of both temporary and persistent myodegenerations. They can be produced experimentally with morphin and asphyxia

(10), a confirmation of the evidence cited above (9) that narcosis produces myocardial injury which is demonstrable both in altered structure and function.

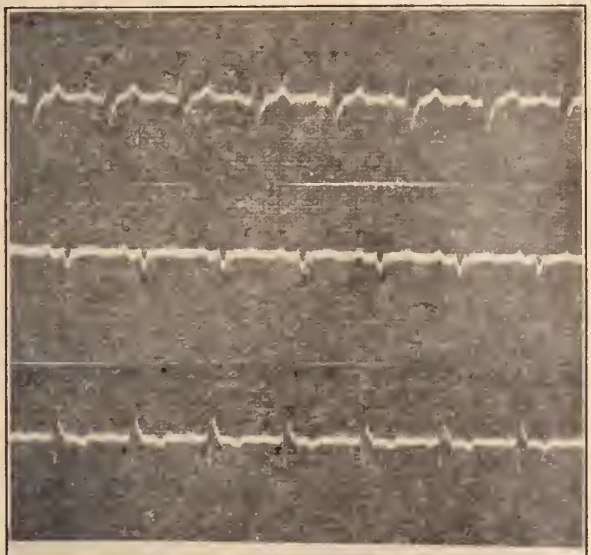

Fig. 3b. Notched R complex with delayed Q-S interval present in all three leads.

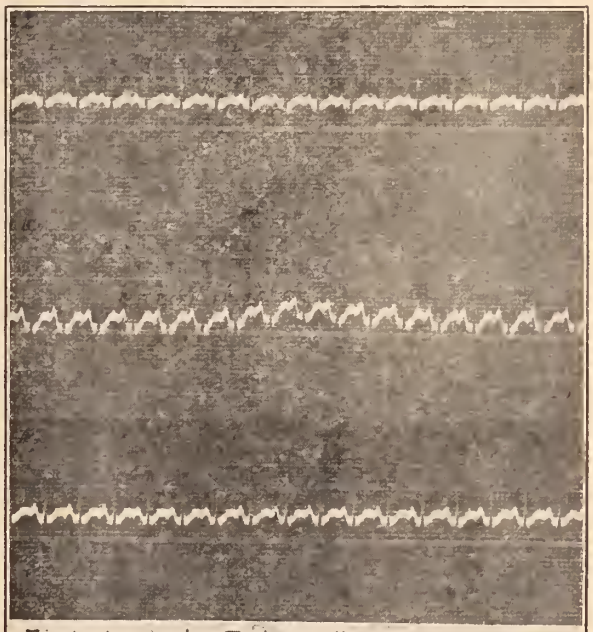

Fig. 4. Auricular Tachycardia. The ventricles respond to each auricular impulse, both chambers contracting at the rate of 208 per minute. Thyroidectomy Exophthalmic Goitre

Evidently, if the welfare of each patient is to be considered, surgeons must develop methods of conducting operations that will minimize immediate danger of death and also liability to initiate or to aggravate permanent and as a rule progressive myocardial injuries. Thus alone can morbid states incompatible with heart muscle welfare be promptly and safely eliminated.

Fundamentally, this means controlling tendencies to increasing tachycardia and arterial hypotension, and at once suggests the methods, namely, to keep the heart rate low to prevent exhaustion

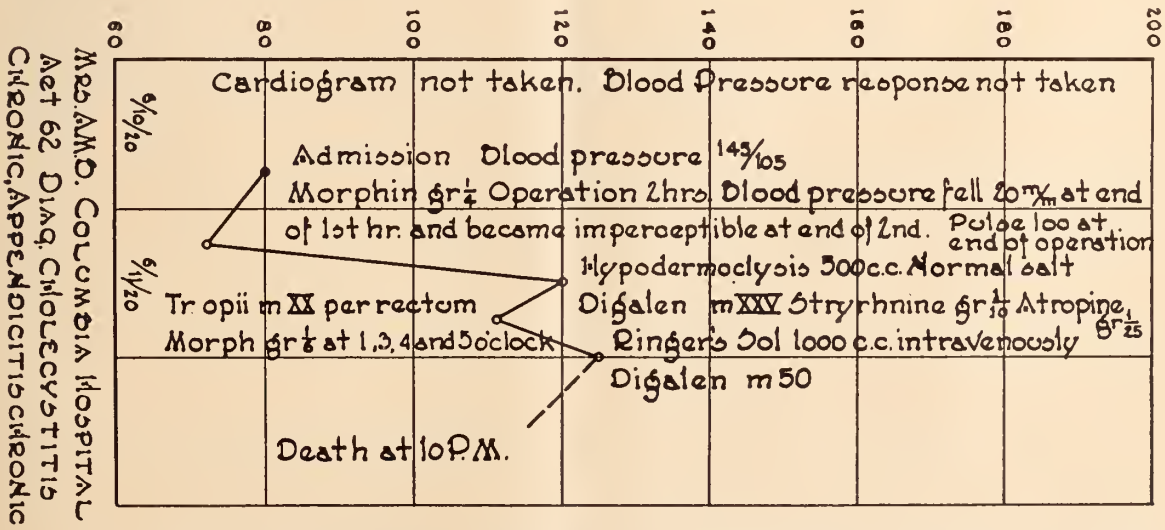

Fig. 5: Myocardial degeneration was established by history. Recent recovery from phthisis. Gas anesthesia was selected and was unsatisfactory. Local or combined anesthesia with free and early administration of glucose and digitalis intravenously might well have assured recovery.

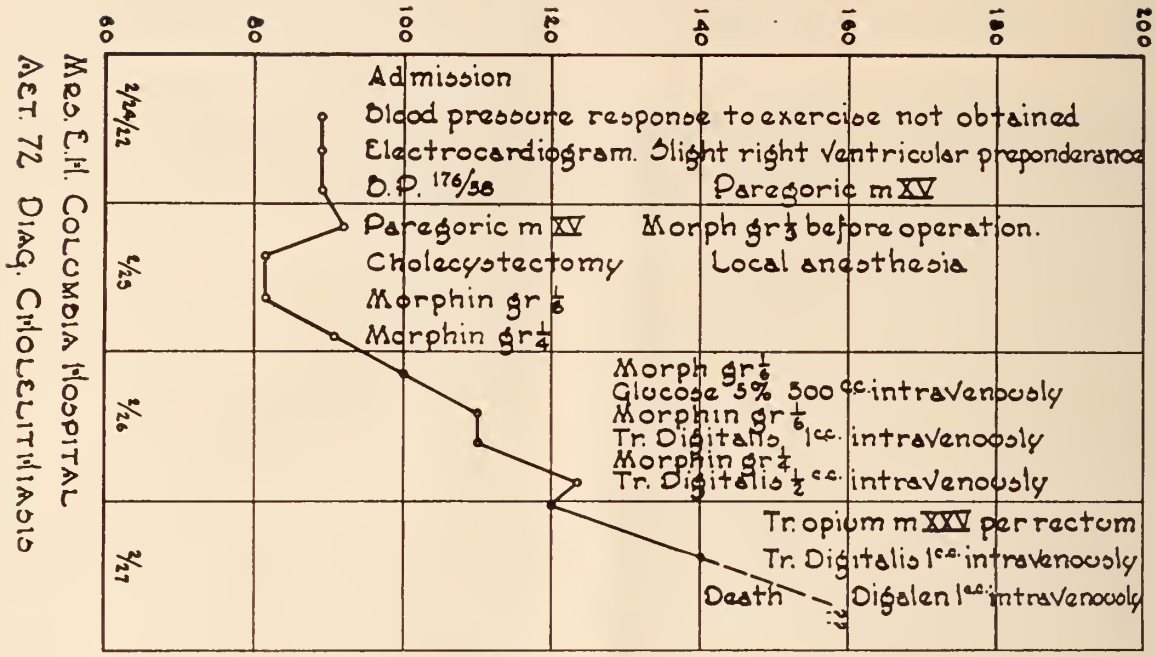

Fig. 6: Myocardial degeneration was established by history. If glucose and digitalis had been given prophylactically the first day, the tachycardia might well have been prevented even though the patient was non-cooperative and would not indulge in mental or physical inactivity.

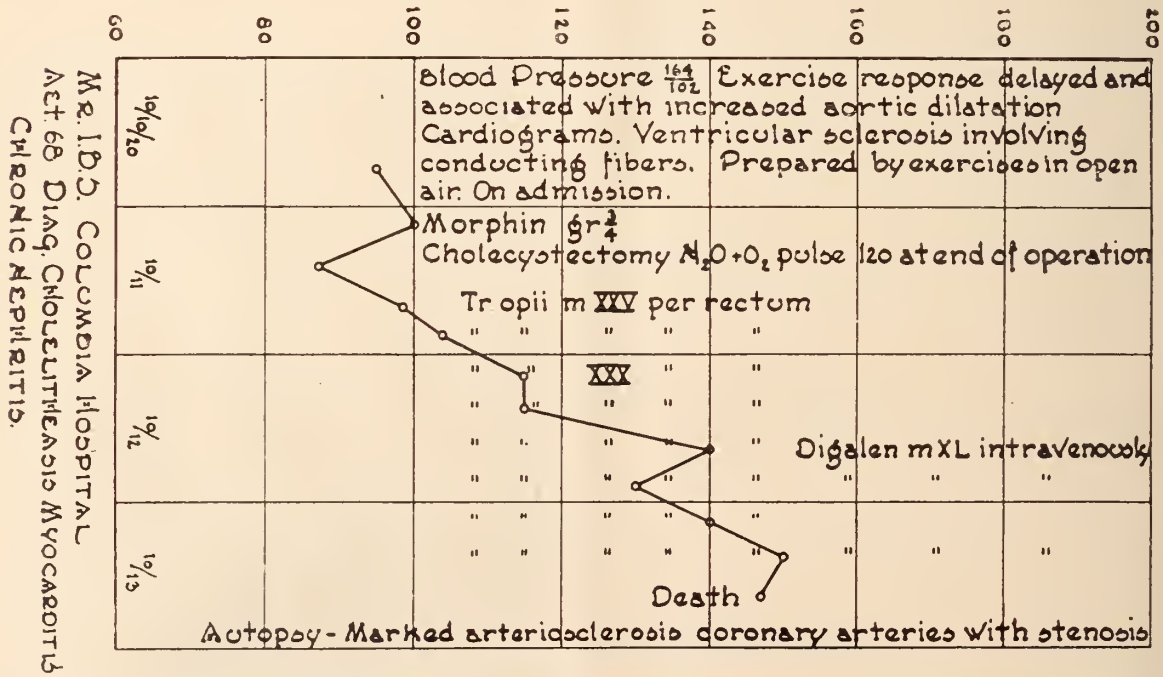

Fig. 7: Serious myocardial injury was recognized. Combined anesthesia and free administration of hypertonic glucose might have permitted immediate recovery. Necropsy showed long-continued existence to have been impossible.

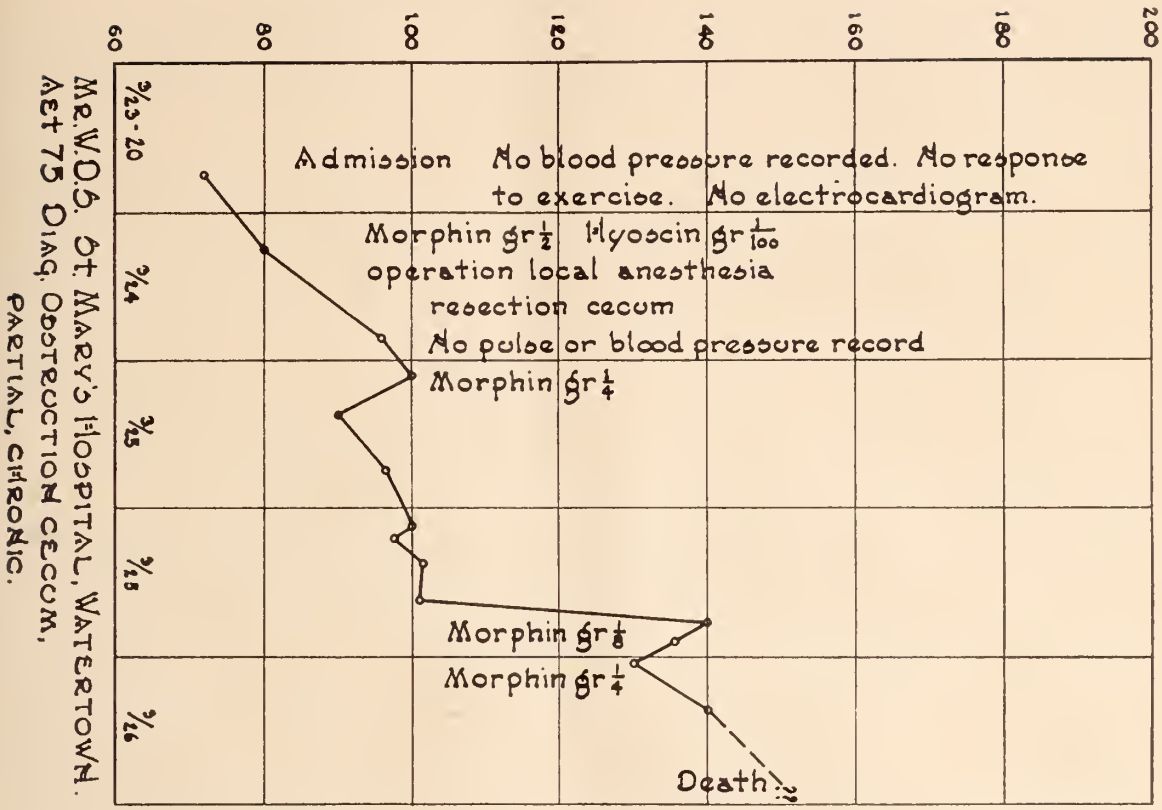

Fig. 8: Myocardial degeneration was established by history. This patient would have been better served and might have recovered if less morphin had been used and had glucose and digitalis been given after operation and repeated the next day.

and to provide an abundant volume of good blood in circulation to assure the conditions prerequisite for myocardial economy.

Tachycardia of the serious type may begin during operation but is more likely to start from several hours up to three days thereafter (Figs. 4, 5, 6, 7, 8, 9). It is usually preceded by blood pressure changes of which variations in pulse pressures are perhaps the most ominous (Figs. 10-A and 10-B). Deaths thus occasioned are attributed to shock, to postoperative exhaustion, or more commonly to cardiac dilatation (11), and usually ascribed by operators to preoperative procrastination, the hand of God or anything but the truth, a failure to protect handicapped heart muscle.

Whenever tachycardias and arrhythmias arise subsequent to operation, electrocardiograms should be promptly secured, the nature of the disturbance determined and intelligent therapy immediately instituted. Levine (11) reported studies upon nine people who suffered from cardiac complications, commonly called "postoperative acute dilatation of the heart." Electrocardiographic examination showed each patient to have had an abnormal auricular mechanism. Three had paroxysmal auricular tachycardia; four had paroxysmal auricular fibrillation; and two had paroxysmal auricular flutter. Direct vagal or occular pressure proved successful in arresting paroxysmal auricular tachycardia. Proper digitalis therapy controlled the paroxysmal flutter and fibrillation.

Protective methods now available are to postpone operation if possible until competence is regained, to reduce the amount of narcotics given and to administer intravenously and generously fluids and at times digitalis *before* there is any evident necessity.

Crile's advocation of the principle of treating before treatment is obviously required is sound and is upheld by the better results thus obtainable. Practically, this entails a limitation of opium to actual necessity, a more general use of local anesthesia, supplemented when advisable by skillfully administered nitrous oxide analgesia. Fluids suitable for intravenous injection are blood, hyper-

tonic glucose and glucose and gum acacia. The amounts and rapidity of administration are determined by circumstances which also indicate the need of digitalis and the amount to be given*

*Note: Clinical observations, confirmed by Cannon's experimental evidence (12), have established two significant facts. Patients suffering from diseases causing severe myocardial injuries, e. g., acute intestinal obstruction, intestinal perforation in typhoid fever or intense jaundice, are subjected to less danger if operated upon under local anesthesia, and when in shock, which is synonymous with myocardial fatigue, they are the more capable of withstanding general narcosis if nitrous oxide and oxygen are administered and in proportion not exceeding three (nitrous oxide) to one (oxygen).

Acceptance of a sound principle that whatever means are beneficial to handicapped patients will offer greater protection to the more robust patients simultaneously determines the safest form of anesthesia. Contraindications to the use of chloroform more than suffice to make its administration unjustifiable. Ether possesses the vir-

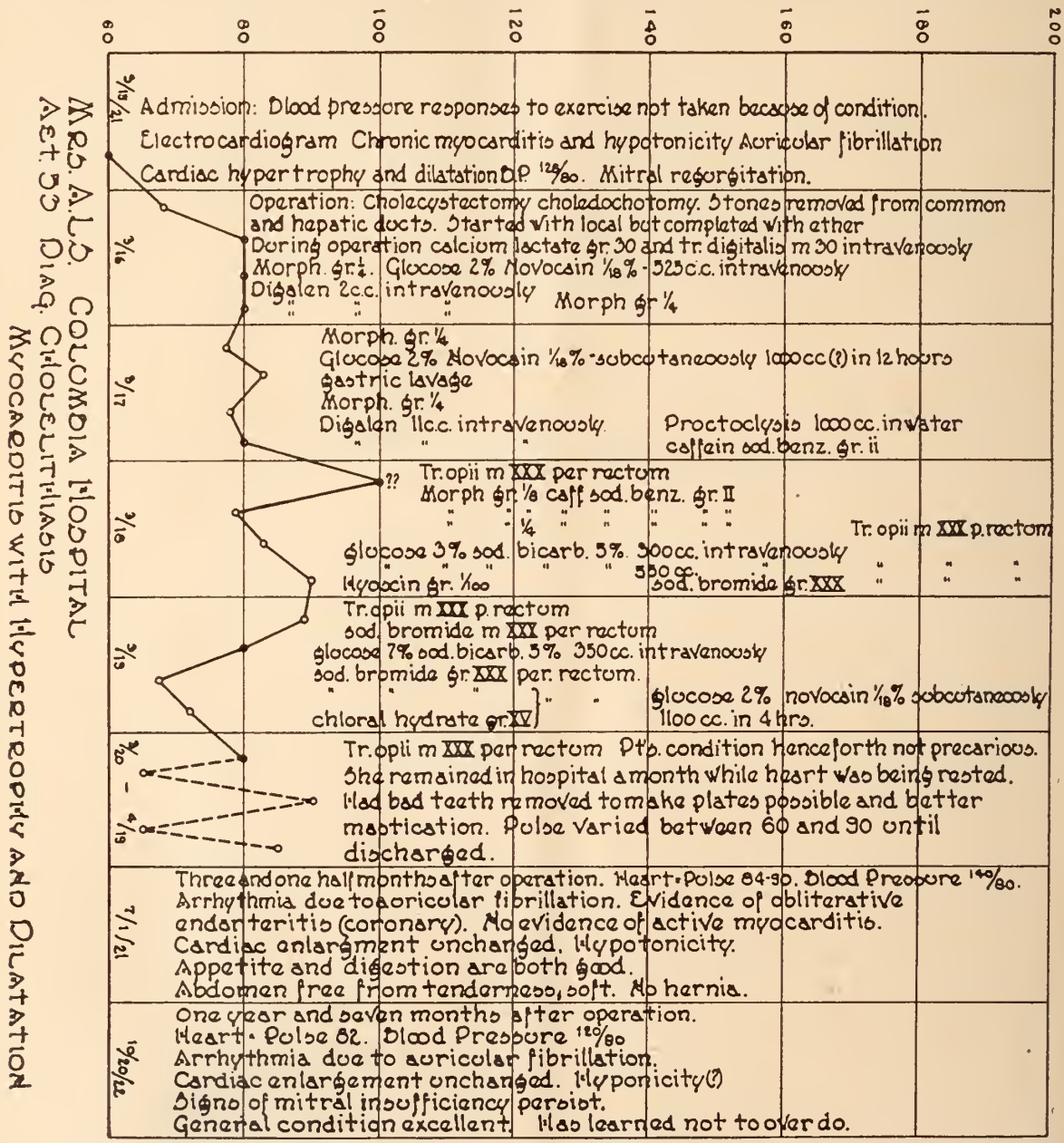

Fig. 9: Patient was known to have myocardial handicaps of most serious type that virtually prohibits general narcosis. General anesthesia had to be used while removing stones from hepatic ducts. Fatal tachycardia was prevented by giving glucose and digalen intravenously promptly, during operation, and repeatedly thereafter. She has been made comfortable and contented. Even if cardiac disability has not been reduced, it has not progressed.

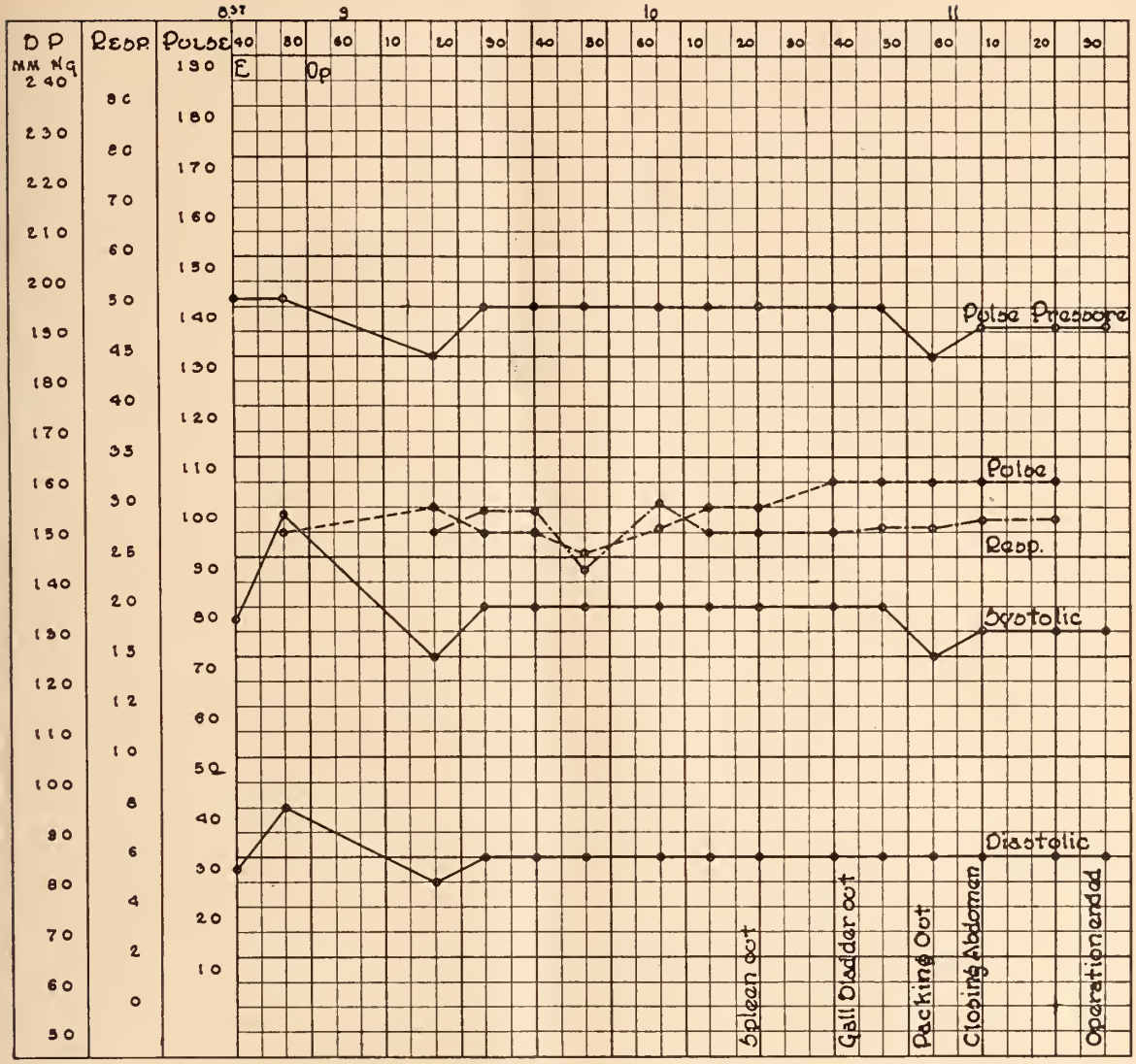

Fig. 10A: Anesthetist's record during splenectomy and cholecystectomy. Splenectomy difficult because of adhesions. Patient in good condition. Moderately severe congenital hemolytic jaundice with gall stones. In spite of long and severe operation pulse pressure remained almost constant.

tue of being least immediately dangerous in the hands of an anesthetist of average ability because it cannot as a rule be given too rapidly (over concentration) and cyanosis (asphyxia) is easily controlled. Nitrous oxide, when given skillfully, is the less unpleasant to take, the more evanescent and causes less ultimate injury. But, as a rule, gas is improperly administered. Induction is too rapid and the subsequent dosage so uneven (often because the operator fails to co-operate with the anesthetist) that there are sudden increments in concentration often with rapid additions of ether vapor. Intervals of cyanosis, under these conditions, are quite inevitable. Thus the most serious of anesthetic injuries, over concentration of narcotic and asphyxia, are inflicted repeatedly, and are harmful to normal and extremely hazardous for handicapped hearts.

The use and not abuse of local anesthesia requires special effort and training in methods essential to success in which the welfare of the patient and not the comfort of the surgeon is fundamental. Farr has demonstrated that it can be employed satisfactorily in most major surgery. When it is wiser to supplement local anesthesia with ether or nitrous oxide and oxygen analgesia, the local anesthetic and local anesthesia methods should be used as carefully as if they alone were available. The object is to reduce primarily the intensity of narcosis and secondarily the total amount given. The duration of administration is of far less moment. A combination of local anesthesia with inhalation analgesia makes possible a reduction of more than one half in both amount and concentration of general narcosis. In brief, the less the concentration and the greater the evanescence of the narcotic, the better for heart muscle. However, other factors must be consid-

ered, particularly the psychic stability of patients. No rigid scheme can be adopted. This applies particularly to the use of opium. It alone can produce fatal tachycardia (Fig. 8) when given too generously, and, if withheld when its use is indicated, the results may be quite as disastrous (Fig. 11 & 12). Generally, it is safer to supplement smaller doses before and after operation with bromides and drugs of that ilk if entire elimination is unpracticable.

The objects of intravenous injection of fluids are to restore and to maintain the natural quality and quantity of circulating blood. Transfusion of blood from properly selected donors is superior if performed preferably by Vincent's paraffin tube or less acceptably by a syringe method. Two facts have been established, but have been given too little recognition. Grouping of individuals only is dangerously inaccurate; in addition, the cells and serum of donor should be tested against the serum and cells of the recipient to eliminate all possibilities of hemolysis. The untoward effects of sodium citrate methods as indicated by Unger (13) and others suffice to condemn its use except in unusual emergencies notwithstanding its much heralded ease of performance and alleged safety.

Blood transfusion is not always possible and may even be undesirable. Satisfactory substitutes for blood must be of types that are retained in the blood vessels and provide excess nourishment for injured heart muscle in an easily available form. Hypertonic glucose solutions have been found to be effective in 5% to 50% (14) strength and 20 to 500 c.c. in amounts. Administration must be under accurate control. A simple apparatus constructed by Thalhimer (15) for this purpose, but described in the principle previously by Freidell, (16) fulfills requirements.

The virtues attributed to glucose solutions are many.

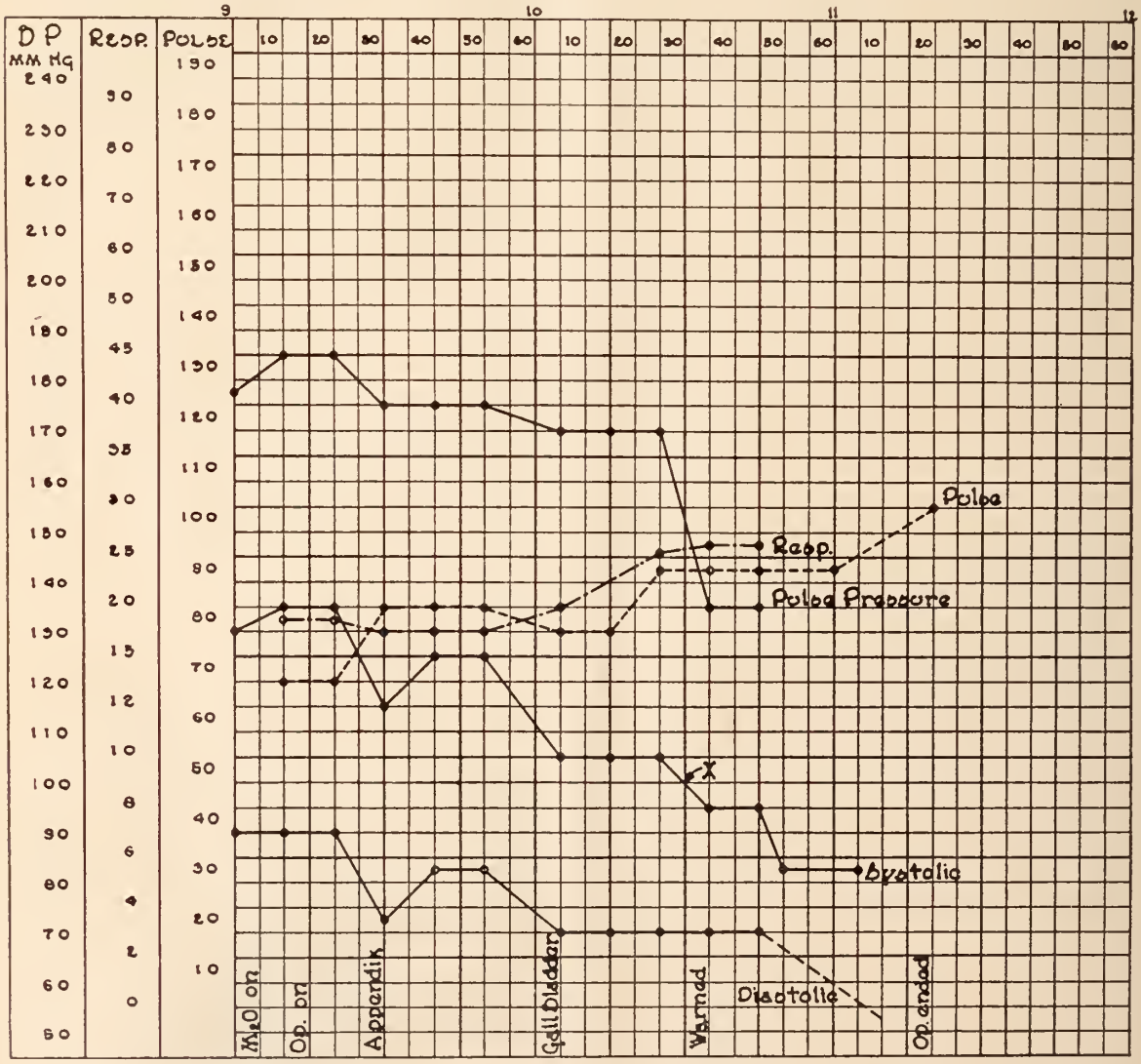

Fig. 10B: Anesthetist's record during cholecystectomy and appendectomy. Illustrating an ominous fall in blood pressure. This patient made a good recovery but would have been far safer had she received glucose (possibly gum glucose) and digitalis when anesthetist gave warning (X).

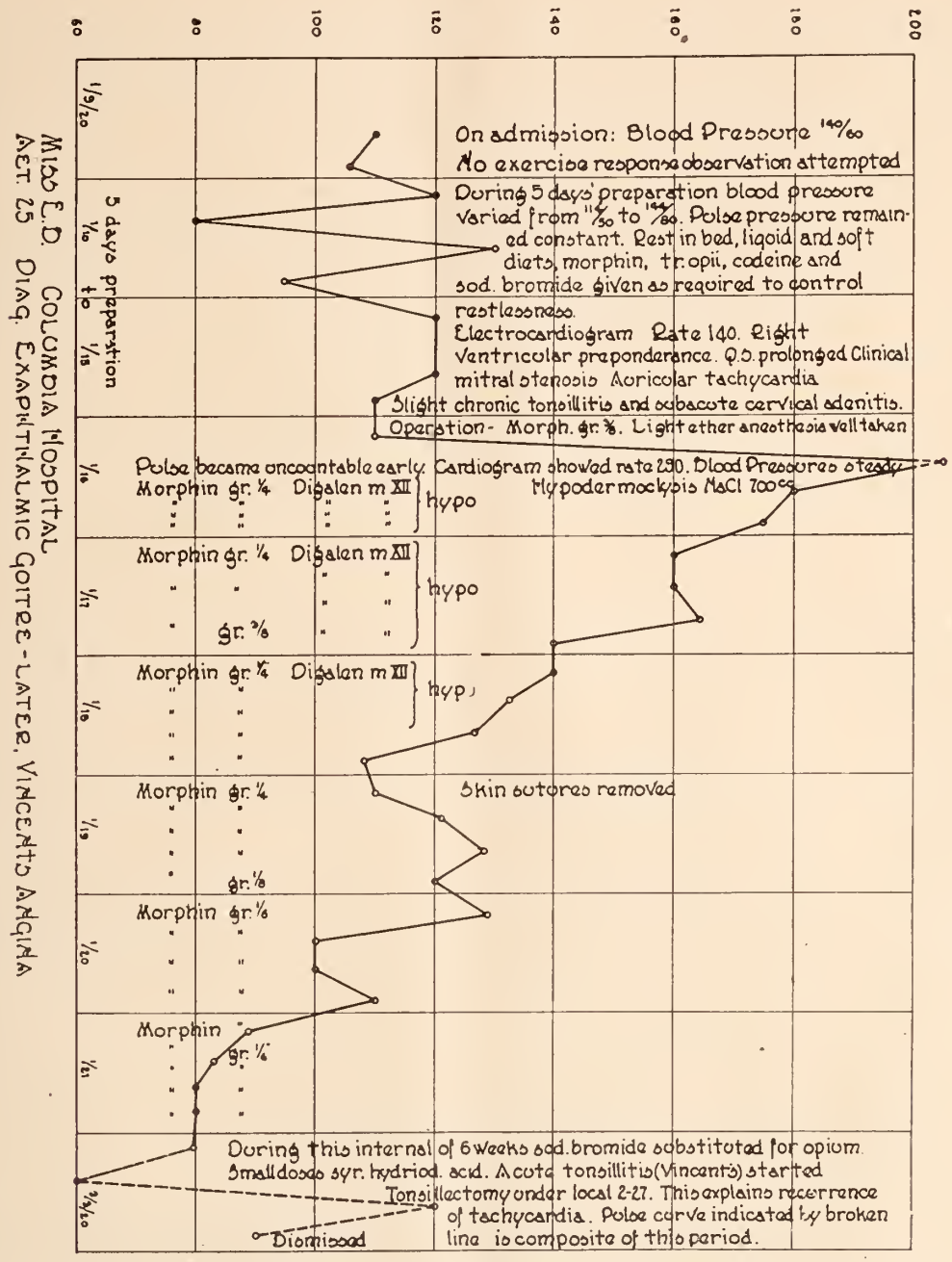

Fig. 11: Unusually toxic goitre in a normally placid young woman. A high degree of delirium and restlessness was controllable only with opium, which in this instance was positively indicated in doses giving physiologic effects. Pulse rate rose during induction of ether analgesia to 219, counted by electrocardiogram. Her pulse pressures did not fluctuate materially during operation or later. Preservation of myocardial competence explains her recovery, which is now, nearly three years later, complete, i. e., exophthalmos is gone, myocardial competence and vasomotor stability have been re-established. Thirteen months ago she went through a normal labor without showing an abnormality during pregnancy or puerperium.

It is alleged to nourish the heart directly and to attract into the circulation substances from extravascular tissues, possibly salts, that are essential to heart muscle tonicity. Also it is said to supply fuel denied by defective carbohydrate metabolism (17), to replace the excess fuel used in combating infection (18), to be useful in supplementing or even substituting for digitalis (19) and to be valuable even as a preoperative drug (20) in making anesthesia easier of induction. There are a few vices though not widely advertised. Any intravenous injection is discomforting and may even cause a fatal syncope (21). If impure or improperly steril-

ized and thereby caramelized, glucose is dangerously irritating and causes severe chills when given intravenously or focal necroses when injected subcutaneously. Glycosuria can be induced, also diuresis but seldom to an extent of material disadvantage, if rational precautions are taken. Isotonic glucose solution can be given subcutaneously and continuously as advocated by Bartlett (22) with great benefit or glucose may be administered per rectum (23) in considerable concentration without irritation or inhibitory influence on bowel.

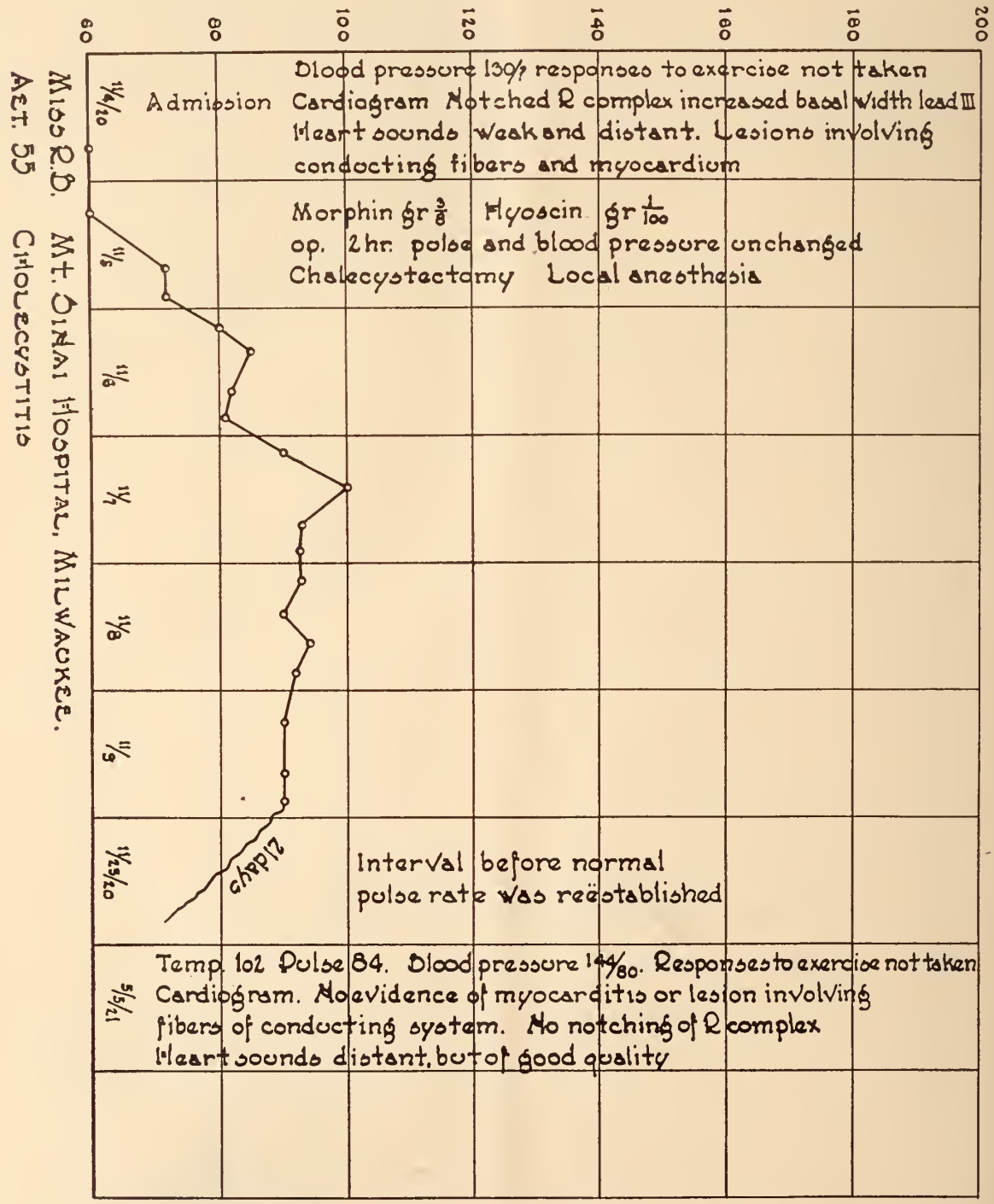

Fig. 12: Moderate tachycardia of auricular origin reaching its peak the second day following operation and continuing during three weeks of bed rest. If 500 c.c. of 5% glucose and 3 c.c. of tincture of digitalis (intravenous) had been given immediately after operation, and repeated the next day, convalescence might have been shortened.

The subsequent history of this patient has proven that even very serious myocardial defects (as demonstrated in the electrocardiogram) may clear, if the source of cardiac irritation is promptly removed. It is noteworthy that an electrocardiogram taken six months later revealed no abnormality of "QRS" group.

Reduction of velocity of blood stream results in stasis in various organs and tissues (24). When this stasis amounts to a material reduction in volume and increase in density of circulating blood, it is called exemia and held to be an evidence of shock. Exemia (intravascular stagnation) may or may not be aggravated by anemia. When anemia is relatively slight, auto blood transfusion can be effected simply by overcoming the exemia, i. e., by increasing the volume and velocity of the blood in circulation. Glucose solutions may fail under such conditions and when transfusion is not feasible, the addition of gum acacia can be effective. Many arguments have been advanced against the use of gum. Every patient who has died after receiving gum under our direction either in civil or military practice has been examined after death. No evidence of agglutination, delayed coagulation or anaphylactoid reactions said to be produced (25) by acacia have been found. Stewart states that its use is unphysiologic. So is amputation, but at times it is quite useful as a life saving measure. If gum-glucose is properly prepared, injected gradually and above body temperature, it is only less valuable than blood in surmounting crises of hypotension, myocardial fatigue and inevitable exemia whether or not they be dignified by the name of shock.

Apparently digitalis, if given early and generously, is the most reliable drug. Large doses as used by Crile and advocated by Robinson (26) are more effective than the smaller and repeated. A standardized tincture diluted with a few c.c. of water or added to fluid being given intravenously is the best form and may be given in 1-5 c.c. amounts.

The measures advocated are possessed of the great virtue of harmlessness for the strong, and can therefore be employed, indeed should be employed, as would be indicated if the condition of each patient's myocardium was less favorable than was suspected.

Preparation for operation cannot be made a routine. Patients with weak hearts should be given necessary rest in bed, cajoled into complacency and assured the proper quantity and quality of blood. Occasionally, longer periods, during which gradually increasing outdoor exercises, at times digitalis (unless there be delayed conduction), sunshine, etc., may materially enhance the chances of recovery. Too little preparation, particularly of those who recently have had a severe intoxication, as from tonsillitis, or too prolonged preparation of those having chronic obstructive intestinal lesions are to be avoided. The average patient does not need catharsis. When this is desirable the least noxious dose should be taken after lunch of the day preceding operation after which fruit juices and water should be consumed plentifully. Sleep is so desirable that soporific drugs are indicated. There is no excuse for making the morning of operation hideous by early awakening for shaving, enemas and other forms of avoidable cruelty. Quiet is to be secured after the preliminary drugs are given and above all patients should so far as possible be made physically and mentally inactive. There is no more reason for permitting a robust individual to walk to an operating room and climb upon a table than to allow this avoidable strain to be accepted by one suffering from aggravated hyperthyroidism. The latter patient would show it more, but both pay for this lack of consideration of their comfort and welfare.

A final selection of the type of anesthesia to be employed may not be possible before a patient is on the table. Many desire a local; for some it is unwise or impossible. The average individual is best served by local infiltration supplemented with gas oxygen analgesia. During operation, anesthetist or surgeon can usually recognize in advance of necessity indications for giving glucose, perhaps with digitalis (Fig. 9). Since no harm can be done, there should be no delay. Timely aid can prevent what delayed treatment cannot relieve. This applies particularly to patients with damaged hearts, who have been subjected to excess strain, particularly that of unavoidably deep anesthesia. Intravenous injections may also obviate the necessity for terminating an operation before its object has been achieved.

Postoperative care is more effective if conducted prophylactically rather than curatively. Blood, glucose, gum-glucose with or without digitalis provide the best means to prevent serious tachycardia. Fluids by mouth, by rectum or subcutaneously are also useful. Personal attention can curtail the need for narcotics, and, by cooling the febrile and warming those who are cold, reduce discomfort and the expenditure of energy. Later treatment of those suffering from myocardial handicaps is too obvious to permit of discussion, save of one point. They should be kept prone until after all tendency to tachycardia is past and then allowed to increase activities only as rapidly as cardiac competence permits. Preferably the after care should be permanently under the direction of a competent internist.

It is not presumed that some patients suffering from myocardial handicaps of the more severe types cannot survive general anesthesia or that all

patients are permanently injured thereby. It is, however, maintained that most patients can be operated upon in spite of much weakened hearts with likelihood of immediate survival, and not only without danger of cardiac damage, but with prospect of material benefit. No group of patients illustrates this point better than the sufferers from chronic cholecystitis who commonly have myocardial injuries. Cholecystectomy under local anesthesia (Fig. 12) has been followed by myocardial recovery even after cardiograms showed a severe type of lesion indicative, if permanent, according to Willius, of a life expectancy of 8½ to 22 months. Others have been benefited materially if to a less degree (Fig. 9). They were enabled to eat again without fear of distress and a source of continued myocardial irritation was eradicated. Cholecystostomy under these conditions is to be avoided. Recurrences are too common, and in addition the dehydration from free bile drainage can cause a fatal tachycardia. On the other hand cholecystectomies under general anesthesia, or under local supplemented with too large doses of morphin, have been followed with tachycardia at times uncontrolled when intravenous injections were not used (Fig. 8) and occasionally when they were employed tardily (Fig. 6).

As a result of too frequent disasters following operations upon the gall bladder, internists who appreciate the untoward influence of chronic cholecystitis upon heart muscle are loath to sanction surgical treatment, particularly cholecystectomy. More unfortunately still there is a procrastination when the greatest benefits are obtainable, namely by prompt intervention at the time when the indications are most urgent prophylactically but are assumed to be insufficient to justify the supposed risk.

Another category of maladies deserves special mention. Patients suffering from intrathoracic lesions have also been given too little consideration from the standpoint of protection and rehabilitation of function. For example, the most common ailment, empyema, has been treated so as to "cure" the suppuration but without reference to subsequent disability which may average 50% with so-called perfect results. This is largely avoidable and is due to failure to appreciate the interdependence of respiratory and circulatory mechanisms and to realize that the functional integrity of both depends upon a maintenance or restoration of normal vital capacity of the lungs. Likewise pericarditis with effusion is frequently overlooked and more frequently untreated when, as Whittemore (27) has proved, relief is safely and easily obtainable. Pericarditis with parietal adhesions is similarly neglected although simple costatectomy (cardiolysis) would materially reduce the cardiac burden. Indeed the whole field of intrathoracic therapy is open to reconsideration upon the basis of rehabilitation of function which lies chiefly in a reduction of heart muscle burdens.

In effect, methods now available make it possible to afford surgical relief to patients so that heart muscle may not only be protected from material transient or permanent injury but be assured ultimate benefit when the disease for which operation is undertaken exerts unfavorable influence upon its integrity. As Finney has so often stated: "Surgery has advanced to a stage when it is no longer the ninety-seven patients out of a hundred who require attention, but the ninety-eighth, ninety-ninth and one hundredth now accepted as inevitable fatalities who demand consideration." We believe it possible to go a step farther by adopting the philosophy that the measures designed to safeguard the last three should be applied to enhance the welfare of the ninety and seven. It is wiser to prevent sheep from straying afar than to indulge in the overexertion required to restore the wanderers. Though the occasion for rejoicing may be great when successful, avoidable failures attributable to the methods in vogue are many.

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DISCUSSION.

Dr. A. J. Carlson, University of Chicago, Chicago, Illinois.

Mr. President and Gentlemen. I really haven't anything to say, except that I should like to second the effort made by Dr. Yates. The essential point in his paper, as it strikes me now and has for a long time, is that many surgeons sin in keeping the patients too long under anesthesia. You have undoubtedly seen the same thing which I have seen, of an inexcusably slow surgeon putting a patient under ether out in the hall or in another room, half an hour before he is ready to operate; he then starts to wash his hands, smoking a cigarette meantime and visiting with other physicians, and keeping the patient under anesthesia possibly 3 or 4 times the length of time that is necessary for the operation. For a number of years I have been trying to impress on the medical students, what does not seem to be realized generally, that the anesthetics are poisons, and the least you can give of the poison, the better. Now Dr. Yates has touched on another point still more physiological, namely, that you should diagnose and try to alleviate any symptom which is below par in your patient. Now that is a hard thing to do. It is easier to write a paper on, Dr. Yates, than it is to do it, because while we appreciate those heart conditions, many of the things we do may not help the heart very much. But what I plead for is that point of view, that those of you who practise surgery actually take those things into consideration and develop speed, and have your patient practically out of your anesthesia when your last stitch is taken instead of, as in many cases in the past, so doped with ether, if not chloroform, that it takes hours and hours for them to come out. That is what I would call, and what Dr. Yates would say is the physiological point of view, the bringing in to your practice of surgery something else than mere plumbing. If that is done, Gentlemen, I do not believe that anybody in this State Association or anywhere else would get up and recommend a gastro enterostomy for a slight diverticulum in the stomach. Most of you know as well as I know, that our best surgeons are now undoing their past gastro enterostomies, including the Mayo people.

There was one point in Dr. Yates paper that I wanted to ask him about. I did so personally. It is a rather important point. Dr. Yates was in Dijon, and he saw some of Mountain's work, and Bullis's work in connection with the gum solution instead of the ordinary Ringer solution or salt solution, for profusion. Now Yates knows as well as you and I know that even during the investigation of shock and prevention of shock during the war, and in the laboratories, experiments and observations of patients came out, and it has come up since then in a recent paper in the A. M. A. on the use of gum solution. I wanted to ask Dr. Yates, because he is competent to answer that question, whether we are yet justified in using a gum solution as a helpful, or in every case as a harmless medium for helping low blood pressure, or breaking up the circulation. I am not dogmatical on that point, I want to know, because of this conflicting situation in the literature.

Dr. Edward Evans, La Crosse:

Mr. Chairman and Gentlemen: I should like to draw attention to a very significant thing that is the discussion of a surgical paper by a physiologist; in other words, the significance of physiological surgery. Dr. Yate's paper, I think, is one of the best papers ever presented before this Society, drawing our attention to the class of cases that are very often not sufficiently studied by an operator, in contradistinction to the surgeon. I was very glad also to have Dr. Yates emphasize, perhaps not as strongly as he ought to emphasize the significance of the ordinary examination of a patient for myocardial weakness. He dwelt on the necessity of examining those patients as to how they resist ordinary fatigue. McKenzie, I think has called attention to the great significance of this, and that instead of the ordinary or extraordinary tests for myocardial weakness, we should get the patient's past history, and see how they resist fatigue, in the ordinary things they do, i. e., as to how the heart resists ordinary fatigue. I think it is of very great significance in some of the cases mentioned, especially the chronic colloid goiter, and the gall bladder patient, that you make a very careful study of their heart before operating on them, and come to what we might call a physiological diagnosis, as to how far we can go in operating on those patients, or, in some of them I believe, not operating at all.

Dr. A. P. Crowell: I should like to ask Dr. Yates if I am right in assuming from hearing his paper if he advocates the use of local anesthesia as a means of doing away with myocardial degeneration in general anesthesia?

Dr. John L. Yates, Milwaukee, Wis.

This paper, due to my negligence, was given the wrong title. It should have been "myocardial deficiency" instead of "degeneration," and Dr. Rogers' and Dr. R. E. Morter's names ought to be on it. Dr. Rogers is responsible for the cardiac examinations. When the paper is published, the methods he uses will be mentioned. They are satisfactory in disclosing myocardial deficiency. The exact nature of that deficiency is not always so important though we prefer, if possible, to get

a cardiogram for more accurate determination. The detail of real importance is to learn from the patient, the patient's history and examination if there is an excuse for even a suspicion of myocardial deficiency; if so, that suspicion is developed; and if there is no excuse, we suspect it a little bit anyhow. Upon that basis the attempt is made to employ the safety-first methods advocated by Crile by trying to get the treatment to the patient before the patient needs the treatment.

Dr. Carlson spoke about the reduction of the anesthetic. That can be secured by using local anesthesia alone or combined with analgesia. Whether or not we agree with Crile in his conception of anoci-association, the fact remains that by using local anesthesia, following the methods so well perfected by Farr, at times combined with gas analgesia, it is possible to get by in a large majority of major operations without dangerous narcosis or even a stage of deep anesthesia. We believe from experimentation and observation that it is the deep stage and not the duration of anesthesia that is very dangerous. Therefore, we believe that if, for instance, it is possible to perform satisfactory cholecystectomy with local anesthesia supplemented, if necessary, by gas oxygen analgesia, in an hour or in an hour and a half, without once having that patient in a stage of anesthesia, the immediate danger is almost eliminated, and as the effects of gas are so evanescent, the possibility of ultimate harm is likewise minimized.

Dr. Carlson questioned the use of gum acacia. We have all heard the enthusiastic condemnation of gum even unto the third and fourth generation of them that hate it. We have seen editorials in the *Journal of the American Medical Association* advancing, it seems to me, specious arguments against gum. In the face of this we have the very accurate experimental work conducted by Baylis and his group, subsequently by Cannon and his group, and later by the shock teams in the B. E. F. and the A. E. F. We are convinced if gum is used when gum should be used, if gum is prepared as gum should be prepared, and if gum is used as gum should be used, it is innocuous and may be invaluable.

Dr. Carlson asked why we added gum to glucose. The answer is simple. There are certain types of exemia, (by exemia we mean intravascular stasis due to a reduction of the blood velocity causing capillary stasis in virtually every organ) when there is not only a reduction in the volume of blood in currency but also the blood actually in currency is over-concentrated. Under such conditions an auto-blood transfusion in that individual can be performed by washing out the large bulk of blood stagnant in capillaries, particularly that in the intestine, skin, and we believe in the lung, by increasing the volume of blood and thereby increasing the velocity of the blood in circulation. We have tried the relative values of glucose alone, and gum-glucose under similar conditions, occasionally in the same patient, and have concluded that benefits may be obtained from gum-glucose that are greater than from hypertonic glucose alone.

There is no need to discuss the relative values of gum-glucose and blood transfusion. Blood is superior so far as we know under all conditions and is the only reliable means to combat advanced anemia. Blood transfusion is not always possible nor always desirable. The least unsatisfactory substitute for full blood under critical conditions is six per cent gum acacia in hypertonic glucose up to sixteen per cent as recommended by Erlanger. Whether or not in a given instance to use gum glucose or glucose is a matter of opinion. These means do permit prevention and relief of exemia and, by furnishing an adequate volume of circulating fluid, give the heart muscle the proper hydraulic conditions and fuel to work more economically.

SPECIAL FEATURES OF RADIUM THERAPY IN GYNECOLOGY.*

BY ARTHUR H. CURTIS, M. D.,

CHICAGO.

In this brief survey, the gynecological use of radium may be considered under four headings:

(1) Hemorrhage.
(2) Fibroids.
(3) Inflammatory conditions.
(4) Cancer.

Hemorrhage, with the exception of some necrotic far-advanced cases of cancer, is almost invariably relieved by radium. Bleeding is the one trouble which radium combats with nearly 100 per cent efficiency.

In hemorrhage of the menopause one should always perform preliminary curettage for diagnosis; the usual treatment then given is a 10 or 12 hour application of 100 milligrams of thinly screened radium, fastened in place by a Michel clip at the external os. Two or three pieces in tandem, throughout the length of the uterine cavity, are preferable to a single capsule, for the latter may not come near enough to the region requiring treatment.

It has become increasingly evident that a large percentage, perhaps even a majority, of menopausal hemorrhages are complicated by uterine fibroids of small size. These fibroids may never have caused trouble until involution of the menopause begins, but then interfere with the normal processes of atrophy. Fortunately, the presence of small fibroids does not alter the plan of treatment.

So-called "myopathic" hemorrhage in younger women is best managed by smaller doses of radium

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(e. g. 100 mg. for four or five hours). The application may be repeated if necessary, but not until three or four months have elapsed.

We find that a fairly generous dose of radium, e. g. 100 mg. for ten hours, administered to a young woman in the height of her maturity, usually stops the menstruation only for a year or two, with subsequent resumption of flow.

Fibroids: Our views concerning the radium treatment of fibroids are now fairly well crystallized; in younger women radium appears ill-advised, unless operation is contraindicated, because it brings about ovarian atrophy and the menopause. Radium is, therefore, preferably reserved for patients over forty years of age. I believe, also, that radium is less satisfactory than operation in tumors larger than a four months' pregnancy. It is likewise contraindicated in patients with abdominal pain, in those with active pelvic infection, in rapidly growing tumors, whenever malignant degeneration is suspected, and in most instances in which the diagnosis is uncertain.

I wish to emphasize the great help afforded by radium in permitting us to perform myomectomy rather than removal of the uterus. In many cases in which hysterectomy was formerly indicated, we can now remove the tumors with assurance that radium can be relied upon to control future hemorrhages. Meantime children may be borne, with the certainty that a second operation will not be necessary.

Inflammations: Most of us believe that radium is to be avoided in the presence of pelvic infection. I have found it of service in just one condition of that nature; namely, in chronic leukorrhea.

The study of leukorrhea has been one of my hobbies. It has been possible to determine that chronic discharges arise chiefly from two sources: from the glands about the urethral meatus and from the cervix.

Cervical leukorrhea is particularly persistent and stubborn. Infection produces an overgrowth of infected hyper-secreting cervical glands. Often there are associated granulations and structures, just as in infections of the male urethra. Thorough dilatation of the cervix, with application of radium into the cervical canal, destroys the glands with resultant cessation of discharge. It is best to treat with small doses, repeated not more often than every three months, in order to avoid possible disturbance of ovarian function.

Cancer My associates and I have used radium for a period of seven years. We have now treated slightly over nine hundred cases, of which 20 per cent suffered from cancer of the uterus.

I now use radium, without operation, in practically all cases except carcinoma of the fundus. Two treatments are the rule; additional irradiation tends to do more harm than good.

In making application, one or more tubes are placed within the cervical canal and numerous needles are buried in the cervix. I prefer to place the needles outside (at the periphery) of the growth. Cancer tissue near the cervical canal is easily controlled; that more distant is the most dangerous. Experience therefore makes us believe that burying the needles at the periphery of the cervix or in the bases of the broad ligaments yields better results than imbedding them directly into the cancer bearing tissue.

At the first treatment we usually give 3500 mc., the equivalent of 100 milligrams for 35 hours. The second treatment is witheld for at least two months, and longer if the inflammatory reaction has not subsided. At the second treatment it is best to be very conservative; a small dosage, sometimes not more than two-thirds of the original amount, yields the best results.

Just as sure as ambition seizes the radiologist he will kill patients. Inflammatory reactions and local infections are bound to complicate massive doses and repeated applications. I would particularly call to your attention a cancer-like induration and fixation of the tissues which may follow the second application. The tendency is to treat once more; yet this infiltration is purely the result of radium and further applications are dangerous.

SUMMARY.

1. Uterine bleeding can almost invariably be controlled by radium.

2. Patients near or at the menopause, with uterine hemorrhage due to fibroids of moderate size, are good subjects for radium therapy.

3. In younger women operation is preferable to radium. Myomectomy should be performed when possible, with the idea of subsequent radio-therapy if bleeding returns.

4. Radium is not the treatment of choice in the presence of large tumors, infection, persistent abdominal pain, suspected malignancy within the abdomen, or uncertain diagnosis.

5. Present indications are that radium treatment of cervical cancer yields better results than operation.

104 S. Michigan Ave.

AN UNUSUAL FOETAL MONSTROSITY.*

WITH PHOTOGRAPHS.

BY MILES H. CLARK, A. M., M. D.,

RIPON.

I take pleasure in presenting for your consideration an unique foetal monstrosity. It combines several not uncommon abnormalities in the one individual. In that lies it's rarity.

The parental history is negative etiologically.

The mother, aet. 26, is of fine physique, normal pelvic measurements, and healthy in all respects. I attended her in her first confinement 3 years ago. It was a short and normal labor, and resulted in the birth of a healthy nine and one-half pound boy, who has developed along perfectly normal lines.

The father is a large man—220 pounds, 6 feet in height, of good habits, and was passed by the most severe U. S. Gov't. tests for special Army Service. Clinically both father and mother seem normally perfect; and I would not have offended either one by requesting a Wassermann, or other laboratory tests.

The grandparents, uncles, aunts, brothers and sisters are, to my personal knowledge, free from any abnormalities. But it is, of course, possible that, farther back among their forebears, there might have been a case which, by Atavism, could have been an etiological factor in this case. The mother sustained a hard fall on her buttocks when about 4 months pregnant. I mention this for what it may be worth.

A month previous to her confinement, I found the foetal heart tones above the line of the umbilicus, and to the left; but I had difficulty in hearing them. The mother felt but slight foetal movements. At the confinement, upon vaginal examination, my diagnosis of breech presentation was confirmed. It was a Sacro Laeva Anterior, and was delivered alive without special difficulty, and with no injury whatever to the mother. The lower extremities were completely flexed on the body, and could not be brought down. The child lived about 48 hours.

There are present in the specimen the following abnormalities:

1. A complete Hydrencephalocele.
2. A Spina Bifida, without Tumor.
3. An Umbilical Hernia of the abdominal contents—Enterocele.
4. A double Talipes Equino-Varus.
5. Left knee without joint structures.

In order to better preserve the specimen, I made but a partial postmortem examination of the foetus.

1. The Hydrencephlocele came through a fissure of the occipital bone, along the Crest, and about ¾ of an inch below, the Occipital Protuberance. This fissure — Craniorachischisis — easily admitted two fingers. No brain tissue remained intra cranium. The sac contained the brain substance with water (serum).

2. The Spina Bifida is simply the fissure in the spinal column, from the 11th dorsal to the 5th lumbar vertebrae, with no tumor, as so often

occurs. There is the usual hairy growth about the cleft.

3. The umbilical hernia — Enterocele — contained within its sac serum and the entire length of the small intestine, part of the ascending and transverse and descending colon, and the pyloric

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end of the stomach. The child passed meconium immediately after birth.

4. There was a double Talipes Equino-Varus.

5. The left knee joint, when incised, was found to contain no cartilages or other joint structures. The leg was super-extended at an angle of about 15 degrees and the bony structures had to be forcibly fractured in order to straighten the limb.

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EXTRACTS TAKEN FROM LETTERS OF DR. JAMES A. EVANS, PARIS FRANCE.

Under date of October 4, 1922, he writes:

"I finished my two weeks course of lectures and now possess a handsome French certificate and a picture of the class, which is very interesting including as it does doctors from Canada, Chili, Mexico, Cuba, Argentine, Spain, Greece, Switzerland and France.

"The day before yesterday I started officially to work as 'assistant etranger' at the Hôtel Dieu. It promises well; I am to make myself perfectly at home, examine what patients I please, and follow teaching rounds. I find Gilbert a good teacher—most particular, exacting and accurate—but with a keen sense of humor and very pleasant. The whole staff is more than nice to me.

"There is a French Congress of Surgeons going on at the Medical School this week and the most unique part is the great instrument and electrical apparatus exhibit. One man from Bucharest gave an interesting lecture on a new interspinal method of general anesthesia, using a formula that I did not quite get, composed of stovaine, strychnine and caffein. I couldn't quite understand his technique so I must look for the article when it is published.

"Albee was there from New York to discuss bone grafts and they had a two day symposium on that subject. Their discussions were on arterial trunk surgery and colon surgery.

"The week after next comes the French Medical Congress, which I joined on the invitation of a man at Widal's clinic. This will entitle me to all publications, gets me in the picture and an invitation to the great reception. I notice the reception to the surgeons is to be held by Professor Hartman of Hotel Dieu at the hotel of some countess in the Faubourg St. Germain. * * *

"The other day, a perfectly glorious fall day, we took the train from the Gare Mont Parnasse, just four blocks from here, out to Mendon—about one-quarter of an hour's ride. There we climbed a long hill through a street of surburban villas and gardens to an observatory founded by the famous astronomer, Jansen. There's a great long terrace in front of the observatory, away up on the hillside overlooking the valley of the Seine and all Paris. Back of us was the forest of Mendon with the leaves just beginning to turn. The sun was just setting and cast its last rays on the white domes of Sacré Coeur on Montmartre. Up somewhere in the forest were two players answering each other on the bugle with the queer plaintive notes of French airs. Then after awhile dusk began to fall and the moon was just beginning to rise from the hills on the other side of the valley when mundane hunger drove us home."

From letter of October 16th, 1922:

"We have just got back from an American restaurant called the 'Little Brown Jug' on the Carrefour de l'Odéon in the heart of the Latin quarter. It is just a block from the medical school. * * *

"Last week I had a most interesting time at the Medical Congress. It started Thursday with the formal opening in the grand amphitheatre in the medical school with all the city officials present.

"Widal was president this year and he is really a remarkable man and a fine personality; a real leader. Thursday evening there was a reception held by Professor and Madame Widal at a big hall near de Champs Elysées. It was very entertaining and wonderful. Refreshments and an entertainment; piano, singing, a one-act sketch by comedians from the Comedie Française and a dance act by artists from the opera Comique.

"The next noon Professor Widal asked me to go with O'Brien, who has been working at Widal's clinic since last January, to a luncheon where I met at his apartment many of the big medical men in France. There were six nations represented. We were met at the door by two butlers who didn't let us lift a finger, but took our hats, sticks and coats. Then we were ushered into the salon where we met everybody. Soon lunch was announced and it was quite an affair though the

atmosphere was informal. About six footmen served and announced each wine as they poured it —'Haute Sauterne, 1913', 'Muet et Chaudon, Sec', etc. Their apartment was gorgeous.

"Then that evening there was a big reception at Hôtel de Ville and more refreshments and champagne and speeches, followed by a tour through the beautiful salon of the Hotel. The next day, the last day, there was a big closing banquet at the Hotel Claridge and poor O'Brien had to give a speech as representing America. He was fussed to tears.

"There were many very interesting papers on gastric and duodenal ulcer and one on a new vaccine for t.b., hoped to be a specific developed by a reliable man after thirty years of work on the subject. I may have been listening to an epoch-making event—time alone will tell—but the old man got a 'great hand' when he finished telling most modestly and earnestly of his new vaccine. It is a formula he has worked out of polyvalent strains of t.b. killed in Na OH. * * *

"As you walk along the streets these last few days you are apt to see all Paris standing on the streets looking up in the air. An airplane has been writing 'Citoyen' in the sky as an advertisement by the novel method of shooting smoke out of its exhaust. It will dot the 'i' and cross the 't' in perfect form. A great idea, to write something in clouds in the sky. 'Citoyen' is a make of automobile. * * *

"My work at Hôtel Dieu is rather elementary as Gilbert is talking mainly for second year medical students There are however interesting cases for me to monkey with myself as much as I please; a Banti's disease yesterday, an eventration of the diaphragm today, some interesting neurological cases on the ward. Today a jaundice of some kind not yet worked out. I am sure when I look around a bit more and get into the radiological department I will find exactly what I want.

"Paris is not without its professional squabbles and I learned during the clinic of the most bitter feeling between the Widal and Gilbert clinics and they say things about each other I wouldn't like to commit to writing."

Nov. 12th, 1922:

"I have been thinking about writing that article for the Wisconsin Medical Journal, and how would this be:

THE HISTORY OF EUROPE'S OLDEST HOSPITAL.

"I am afraid if it went much into present day organization and every day working of the Hôtel Dieu, it wouldn't be very instructive, as all their hospitals are far, far behind ours as to equipment, organization and even working up of cases. I certainly think we have more to teach Europe at the present time than they have to teach us, and even they realize it now; French doctors who have been to America come back highly enthusiastic, especially about our hospitals, and the younger ones would like to get positions in large American clinics. Somebody ought to do a good deed and provide scholarships and positions as foreign assistants in our hospitals for French students. There are two reasons for this present situation; of course they haven't got the funds for the kind of equipment we can afford and the laboratory technicians we hire; and second, they won't work as hard as we do. There is a case on the ward now, a Pole, about 35, looked like t.b. from history when he came in, but lung findings are all at the base and the sputum examination was negative. He has a full fledged mitral stenosis with a very recent rheumatic history to explain the hemoptyses and the lung findings but he has a low intermittent fever and I suspect the possibility of endocarditis on the stenosed mitral, but they don't take an electro-cardiogram nor a blood culture, nor a White Blood Count nor look for hematuria, and it is that way again and again; also they haven't X-rayed his lungs. They have all these facilities at Hôtel Dieu and I don't know why they don't use them. Another thing, I have seen typhoid cases in the open ward in two different hospitals here without even a screen around them and the flies swarming.

"Then again, you will see some brilliant work, such as a case at Hôtel Dieu with gangrene of the lung, treated without much result with an autogenous strep and perfringens (anaerobic) vaccine, taken to the surgery and a two stage pulmonary drainage operation done and the case making fine strides toward recovery. The French medical literature is great; they don't rush to print in a thousand different journals like we do but do their work in monograph form after they have completed it and there are no such things as 'preliminary reports' and investigations scattered through the current literature."

November 19th, 1922:

"French clinics both medical and surgical are rather mediocre as far as actual work on the patient is concerned. The surgery is not the beautiful exhibition of team work the American is, and seems to me sloppy and not with great skill as we do it. They are terribly conservative—surgeons advise against operations we would do in a twinkling and patients refuse operations our patients would come to us expecting to have done. Teeth are an unknown factor and in a case of lumbago now on the ward, with pyorrhea, where I suggested this as his focus, I was smilingly told Americans were prone to exaggerate

"In two cases of catarrhal jaundice, I tried to interest them in Metzler-Lyons' procedure, and nothing doing. The interne told me it was too tedious. They won't work on their patients as a matter of routine—only when it is something that interests them. But their didactic teaching is superb—they are theoretical and woefully impractical from an American point of view.

"Last week I started attending lectures at the medical school, one in pathology, in the grand amphitheatre where the professor in frock coat showed the most beautiful colored stereopticon photo micrographs I shall ever have the pleasure of seeing, illustrating the stages of pneumonia.

"Lardennois, a rising young Agregé in surgery, is giving a didactic course on G. I. surgical indications which is splendid. Another course on the intoxications is most interesting, going into detail on the cocaine and opium smuggling, peddling and history as also the clinical side of the sujbect.

"Villaret Gilbert's Agregé is giving a course on the hepatic, pancreas, and spleen symdromes which is excellent. Gregaire, whose book on surgical anatomy I read this summer, is giving a splendid course on abdominal applied anatomy.

"Saturday Gilbert held his first 'Clinique Magistrale' in the large amphitheatre at Hôtel Dieu on nephrites. He appeared in a spick and span Prince Albert, probably dating from the days of Prince Albert, with his rosette of the Legion of Honor, and a butcher's apron around his middle, which they never omit. I wear mine over a white blouse. His whole staff, including poor me, met him beforehand in the anteroom of the amphitheatre and followed him in before the students, ranging ourselves in the pit. Then after five minutes the various other members of the staff sneaked out one by one but it was absolutely necessary they put in their appearance. His clinic, however, was excellent and their views on nephrites closely coincide with ours. This case was supposed to be of hereditary specific origin.

"Tomorrow I am going to start on a problem at Hospital Cochin under Widal, along with another young man, O'Brien from Hopkins, who has been working on anaphylaxis there for almost a year now.

"A great work is being done over here with bismuth in the treatment of lues, a tartrate salt of bismuth, deep intramuscular injections. Fournier at Cochin, the son of the man who gave himself lues years ago to prove its contagious basis, has developed this formula and indications and uses it now to the exclusion of arsenic and even mercury and K. I. in a great run of his cases. It is used universally in France but more in other clinics than Fournier's as an adjunct."

CLINICAL AND BACTERIOLOGIC STUDY OF ONE THOUSAND CASES OF LOBAR PNEUMONIA.

In a series of 917 cases of lobar pneumonia studied by Russell L. Cecil and Nils P. Larsen, New York (*Journal A. M. A.*, July 29, 1922), in which a definite bacteriologic diagnosis was obtained, 90 per cent were of pneumococcus origin. The greater part of the remainder were referrable to *Streptococcus hemolyticus* or *Streptococcus viridans*. In the pneumococcus series, pneumococcus Type I predominated (38.4 per cent). Pneumococcus Type IV was next in frequency (27.7 per cent); pneumococcus Type II (18 per cent); pneumococcus Type III (15.9 per cent). In 424 cases of pneumococcus pneumonia treated with pneumococcus antibody solution, the death rate was 21.4 per cent. A control series of 410 cases in the same institution showed a death rate of 28.3 per cent. Pneumococcus antibody produces its most striking effect in pneumococcus Type I pneumonia. In a series of 156 treated cases the death rate was 13.3 per cent; while a control series of 162 cases showed a death rate of 22.2 per cent. A definite but less marked effect was observed in cases of pneumococcus Types II and IV pneumonia which were treated with antibody. The antibody solution had no effect whatever on the death rate in pneumococcus Type III pneumonia. The death rate of streptococcus pneumonia was not favorably influenced by antibody treatment. In the series of patients with pneumococcus pneumonia treated with antibody, 28.8 per cent recovered on or before the fifth day. In the control series, only 7.9 per cent recovered on or before the fifth day. There were forty-four severe complications in the treated pneumococcus series, with a death rate of 54.5 per cent. In the pneumococcus control series there were fifty-four severe complications, with a death rate of 68.5 per cent.

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EDITORIALS

CONVENTION DATES CHANGED

WITH the American Mining Congress in Milwaukee from September 20th to 30th, inclusive, the Council of the State Medical Society announces a change in the dates of the annual meeting. The meeting will be held on Wednesday, Thursday and Friday, October third, fourth and fifth, instead of on September nineteenth, twentieth and twenty-first.

The Program Committee promises an unusual selection of speakers and members are urged to reserve October third, fourth and fifth for the state meeting at Milwaukee. Members desiring to read papers should immediately communicate with the Program Committee, J. Gurney Taylor, Wells Bldg., Milwaukee, Chairman.

TEAMWORK.

ONE hundred members of the Men's Brotherhood of the Janesville Methodist Church met last month to learn about progress in medical science. Physicians of that city related "interesting facts told in language the ordinary man might understand."

Prevention and cure of goitre, new instruments in the diognosis of the genito-urinary tract, diabetes and the balanced diet, group medicine and a preliminary skit formed the program. That the program was enjoyed and appreciated was evidenced by a long story in the Janesville Gazette.

It was a worth-while program. The veil of professionalism was lifted and a hundred representative men left that meeting with a better understanding of the endeavors of the medical fraternity. It was teamwork that will reflect benefits to both the community and to the profession.

SUPREME COURT DECISION.

THE Supreme Court of Wisconsin, in an opinion by Chief Justice Vinje, published in full in this issue, is of great importance to the medical profession. It lays down no new doctrine. On the contrary, it affirms the law as held by the court in Nelson v. Harrington, thirty-five years ago. That doctrine is:

"A physician or surgeon, or one who holds himself out as such, whether duly licensed or not, when he accepts an employment to treat a patient professionally, must exercise such reasonable care and skill in that behalf as is usually possessed and exercised by physicians or surgeons in good standing, of the same system or school of practice, in the vicinity or locality of his practice, having due regard to the advanced state of medical or surgical science at the time.

"To constitute a school of medicine under the foregoing rule, it must have rules and principles of practice in respect to the diagnosis and treatment of diseases, which each member is supposed to observe in any given case." Nelson v. Harrington, 72 Wis. 591.

And as stated in the recent case, Herman F. Kuechler v. Frank C. Volgmann, "we construe the gravamen of the complaint to charge a lack of skill and care in diagnosis, in the failure of defendant to discover the nature of the ailment from which plaintiff suffered. Malpractice may consist in a lack of skill or care in diagnosis as well as in treatment." And "diagnosis is ordinarily assumed and performed by licensed medical or osteopathic physicians. But it may be assumed by others, and *it is held that the practice of chiropractice is the practice of medicine.*"

Diagnosis is declared to be fundamental to the art of healing. And this is clearly so. Until the practitioner is able to diagnose and determine his patient's ailment, he is in no position to treat the patient. Regular practitioners are little concerned on their own account with competition from the incompetent unlicensed quacks that prey upon the public for sooner or later a person with a serious ailment finds his way to a regular practitioner. Ofttimes, however, the patient has been deluded into accepting some nostrum until his disease is beyond successful treatment. And this is the pity of inefficient laws and lax enforcement. The masses of poor people are in no position to judge as to professional skill and are quite apt to accept a skillfully worded "ad" as a promise of successful treatment when in fact it means quackery and malpractice.

Now if diagnosis is fundamental to the treatment of disease, then should the law permit anyone to practice the art of healing without qualifying in the subject of diagnosis? The fact that such a person may be liable for malpractice is not an excuse for permitting a person incompetent to diagnose a disease to impose on the public. A malpractice lawsuit will restore no one to good health. It will not raise the dead. The object of the law should be to prevent malpractice. The legislature should take notice of the decision of the Supreme Court and bring the statutes into harmony with it. It would seem patent to anyone at all familiar with the causes of disease that a germ disease like tuberculosis or a malignant tumor or cancer cannot be cured by manipulation of the spine. No farmer has yet tried to cure his cattle of tuberculosis nor his swine of hog cholera by such treatment. He would not expect to relieve a horse of spavin or of glanders by rubbing the animal's backbone. But many farmers and others allow members of their families to be so treated until it is too late for relief by proper treatment.

COURT UPHOLDS DIAGNOSIS.

FOLLOWING is the complete decision of the Wisconsin Supreme Court handed down on April fourth in which the Court holds that lack of diagnosis or improper diagnosis is a basis for malpractice action.

The case arose in Kenosha where the plaintiff, Herman F. Kuechler, sustained an injury to his head in the course of his employment. Three weeks later he became subject to headaches and nausea and went to the defendant, Frank C. Volgmann, a chiropractor, for treatment. He received treatment for eight months. At that time, his condition growing worse, Volgmann advised his patient "to go West for relief."

Kuechler did go West but, his suffering becoming rapidly worse, he returned and subsequently went to Augustana Hospital, Chicago. There it was found that he had a tumor of the brain. It had so far progressed, however, that all that could be done was to remove a portion of the skull to allow it to grow externally.

Kuechler sued the chiropractor for malpractice asking $25,000 damages. Volgmann contended, through the national attorneys of the U. C. A., Morris, Winter, Esch, and Holmes of La Crosse, that chiropractors do not, "in the usual acceptance of the words, diagnose disease. His diagnosis, if it can be so called, consists solely and entirely in determining which of the vertebrae of the spine are out of alignment, to what extent, and in what direction.

"When a patient goes to a Chiropractor, he goes for Chiropractic service alone. He does not expect or desire the service of a surgeon or Doctor of Medicine."

This demurrer to the complaint was sustained by Judge E. B. Beldon, Circuit Court of Kenosha County. Kuechler appealed to the Supreme Court which now upholds him overruling Judge Beldon declaring that "malpractice may consist in a lack of skill or care in diagnosis as well as in treatment." The decision follows:

"The trial court sustained the demurrer," says Chief Justice A. D. Vinje, "on the ground that the complaint having alleged that defendant treated the plaintiff according to the methods used by members of defendant's profession, namely by chiropractors, it negatived negligence and lack of skill, since the rule is that a physician is required to exercise only that degree of care, diligence, judgment and skill which other physicians of good standing of the same school or system of practice usually exercise in the same or similar localities under like or similar circumstances having due regard to the advanced state of the medical profession at the time in question, citing, Nelson v. Harrington, 72 Wis. 591; Wurdemann v. Barnes, 92 Wis. 206; Marchand v. Bellin, 158 Wis. 184; Hrubes v. Faber, 163 Wis. 89; Jaeger vs. Stratton, 176 N. W. 61. Such is undoubedly the rule of law in this state, and were the complaint grounded upon a lack of skill, care, or of negligence, in treatment only, the trial court came to the right conclusion. But we construe the gravamen of the complaint to charge a lack of skill and care in diagnosis, in the failure of defendant to discover the nature of the ailment from which plaintiff suffered. Malpractice may consist in a lack of skill or care in diagnosis as well as in treatment. Jaeger v. Stratton, ..., Wis., ..., 176 N. W. 61. A woman may be in the early stages of pregnancy. A doctor may diagnose it as an ovarian tumor and operate. There may be no lack of skill or care in the operation but there may be in the diagnosis.

"It is a familiar principle that a complaint must be liberally construed in favor of the pleader. By examining the complaint set out in the statement of facts it will be found that the pleader says that through a lack of skill and care the defendant negligently undertook to treat plaintiff for a malady from which he was not suffering, and that had the defendant possessed ordinary skill or ability in treating disease he would by the exercise of ordinary care have known the true cause of his ailment. The complaint also alleges that plaintiff "is informed and believes that if the said defendant had used ordinary care and skill in diagnosing the affliction of the plaintiff he would have known by the use of such ordinary care that the said plaintiff was afflicted with tumor and that an operation upon the plaintiff at the time when the plaintiff first consulted the defendant would have effected an immediate and permanent cure." This expressly charges lack of care and skill in diagnosis with resultant damages.

"That chiropractors, who by the provisions of Sec. 1435c, Stats. 1921, are permitted to practice without a license in this state, are required to exercise care and skill in diagnosis, if they undertake a diagnose, there can be no doubt Sec. 1435i directly so provides and makes them liable for malpractice. So far as here applicable it reads: 'Any person practicing medicine, surgery, osteopathy, or any form or system of treating the afflicted without having a license or a certificate of registration authorizing him so to do, shall not be exempted from, but shall be liable to all the penalties and liabilities for malpractice; and ignorance on the part of any such person shall not lessen such liability for failing to perform or for negligently or unskilfully performing or attempting to perform any duty assumed, and which is ordinarily performed by licensed medical or osteopathic physicians, or practitioners of any other form or system of treating the afflicted.' It is clear from the allegations of the complaint that defendant undertook to diagnose as well as to treat the disease. Diagnosis is ordinarily assumed and performed by licensed medical or osteopathic physicians. But it may be assumed by others, and it is held that the practice of chiropractic is the practice of medicine. Commonwealth v. Zimmerman, 221 Mass. 184; State v. Barnes ..., S. C. ..., 112 S. E. 62. And the fact that chiropractors abstain from the use of words like *diagnosis, treatment* or *disease* is immaterial. What they hold themselves out to do and what they do is to treat disease and the substitution of words like *analysis, palpation* and *adjustment* does not change the nature of their act. Commonwealth v. Zimmerman, 221 Mass. 184 and cases cited on page 189. Hence when the defendant assumed to perform that duty he must exercise the care and skill in so doing that is usually exercised by a recognized school of the medical profession. Nelson v. Harrington, 72 Wis. 591. This the complaint alleges he failed to do and the demurrer admits the allegation. For these reasons we reach the conclusion that the trial court erred in sustaining the demurrer.

"*By the Court*: Order reversed and cause remanded with directions to overrule the demurrer and for further proceedings according to law."

FIRST ISSUE OF HYGEIA.

HYGEIA, the new Journal of Individual and Community Health, authorized by the House of Delegates at the St. Louis Session, is now a reality. The first number is being distributed to subscribers and news agencies. Its content covers a wide range of subjects, yet every item from the lofty prose poem, "I am *Hygeia*," on the frontispiece to the closing smile column, "Oh, Very Well," is related to some phase of health. There are millions of intelligent Americans who are seeking the truth on some of the very themes discussed in the first issue of *Hygeia*.

The active manner in which many individual physicians and medical organizations have aided in introducing *Hygeia* has been very helpful. For a time, subscriptions were being received from physicians at the rate of five hundred a day. This interest indicates that many in the profession realize the importance of taking the lead in public health education. Reference was made in the last issue of the BULLETIN to the splendid support given to *Hygeia* by the Alleghany County Medical Society. This society ordered 1,227 subscriptions, one for each member, and lately has sent an additional order for 446 subscriptions. In this last list are included the heads of charitable organizations; public officials from senators down; presidents of leading women's clubs; principals of schools; clergymen; public libraries, and reading rooms of clubs. In truth, *Hygeia* will exert an influence in Allegheny County from the very first issue.

Other local medical organizations have also given splendid support to *Hygeia* and have sent in group subscription orders. Among these may be mentioned the societies of Pierce County, Wash.; Cascade County, Mont.; Genessee County, Mich.; Lake County, Ind.; Fergus County, Ind.; Portage County, Ohio, and Douglas County, Wisconsin. Support of this kind will enable *Hygeia* readily to perform the service for which it is intended. The possibilities of the new publication are very great. Not only is there need for health education in America, but that need is crystallizing into action. Some of our great organizations —for instance, the National Education Association—are making health promotion a part of their program. Recently the desire of women's clubs for leadership in health and hygiene was met by the formation of the Women's Foundation for Health, Incorporated. Public health officers, more than ever before, are exerting themselves to educate the public on how better to care for the sick and to prevent disease. In industries, health is receiving more and more attention. Even in our national politics, health problems have been given unusual prominence during the past two years. Clearly a great health movement is under way. It is high time for the medical profession to assume direction and leadership. *Hygeia* is an important step in this direction.

THE JOURNAL CLINIC

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A VERY EARLY CASE OF RENAL TUBERCULOSIS. NEPHRECTOMY.

BY E. H. MENSING, M. D., AND WILLIAM THALHIMER, M. D.,

COLUMBIA HOSPITAL,

MILWAUKEE.

This case of renal tuberculosis is of interest because, although the renal lesions were very small, the symptoms were characteristic of tuberculosis of the kidney. Careful search revealed tuberculosis of the tip of only a single papilla near the lower pole of the kidney and several small ulcers of the upper end of the slightly thickened ureter. When the kidney was delivered into the wound at operation, its apearance was entirely normal and this caused us to hesitate about its removal. Even after it was removed and opened, it took several minutes of careful examination before the diseased papilla and ureteral ulcers were found.

The important features of the case are: That a young man, previously healthy, first developed right tuberculous epididymitis for which an epididymectomy was performed. At this time he had no urinary symptoms and no abnormal urinary findings. Nine months later bladder symptoms appeared, i. e., burning on urination and frequency of urination. Four months after this the patient noticed a firm nodule in the left testis.

The urine now consistently contained a trace of albumin and many pus cells, but none of the commoner bacteria. Tubercle bacilli (acid fast organ-

isms with typical morphology) were repeatedly found in catheterized specimens of urine, and their presence was verified by guinea pig inoculation. Cystoscopy and ureteral catheterization revealed a normal bladder and normal ureteral orifices. The urine from the left kidney contained many pus cells whereas that from the right kidney did not.

Tuberculous ulcer of Ureter.

The differential functional test with phenolsulphonephthalein showed only 10% excretion by the left kidney and 30% by the right. We were unable, however, to find tubercle bacilli in the urine from the left kidney.

We believe that *it is worth emphasizing as extremely important that the small extent of tuberculous involvement of the left kidney caused such a marked reduction in the excretion of phenolsulphonephthalein.*

The only missing links in the chain of evidence of left renal tuberculosis were inability to find tubercle bacilli in the urine obtained from this kidney, and absence of inflammatory changes about the left ureteral orifice. Although the inflammation of the ureteral orifice apears early in cases of renal tuberculosis, they were not yet present in this case.

The presence of tuberculosis of the epididymis suggested that the bladder symptoms also were caused by tuberculosis. The repeated findings of tubercle bacilli in the urine, of large numbers of pus cells in the urine from the left kidney and none from the right, and the greatly reduced phenolsulphonephthalein excretion by the left kidney indicated to us the presence of left *renal* tuberculosis. Because of these findings a left nephrectomy was performed, even though the kidney appeared normal when delivered into the operative wound. The diagnosis and operation were justified by the small, tuberculous lesions which were found in the kidney. Therefore this case adds *additional evidence to demonstrate the accuracy with which a diagnosis of early, unilateral, renal tuberculosis can be made.* It also *emphasizes the need of per-*

Renal Papilla showing superficial Caseation.

forming a nephrectomy, after the requirements for the diagnosis have been satisfied, even though the kidney appears normal at the time of operation, as in the case here reported. This has also been

demonstrated recently by Steinthal[1]. He reports a case where the findings indicated tuberculosis of the kidney, an exploratory operation was performed and even after slitting the kidney no tuberculosis was found. The kidney was not removed, and later, necropsy revealed the tuberculous focus, that had escaped the nephrotomy, and miliary tuberculosis which had developed. He refers to a case of Stöckel, where the bacteriologic and other findings were positive, the kidney was removed although it seemed sound, and afterward only a minute focus was discovered. Braatz' case is also referred to, where the apparently sound kidney was sutured after a negative exploratory nephrotomy, and four years later nephrectomy revealed both old and recent foci.

SUMMARY.

This case is a very early one of tuberculosis of a renal papilla, without the appearance of the usual secondary inflammatory changes (bullous edema, etc.) about the ureteral orifice, and the patient is apparently well twelve months after nephrectomy.

The means for determining tuberculosis of the kidney are so reliable at present, that positive findings can be relied upon implicitly. Even when the incriminated kidney appears to be normal at an exploratory operation, nephrectomy should be performed, as the focus of tuberculosis may be so small, as in this case, that it can be discovered only by careful search after the kidney has been removed.

Tubercle in submucosa of Ureter.

Kidney, showing tuberculosis of tip of lowermost papilla, and tuberculous ulcers of upper end of ureter. The diseased papilla is bisected, one-half appearing on each half of the kidney.

Patient E. J. Admitted to the Hospital 1/19/22, complaining of enlargement of the left testis.

The left scrotal sac is enlarged and tense. The left epididymis is somewhat enlarged, nodular and tender. Urine examination is negative.

1/20/21. Right Epididymectomy, and Bottle Operation for Hydrocele.

Microscopical Examination. Tuberculosis of the Epididymis.

3/11/22. Returned to the Hospital with the complaint of burning on urination, frequency of urination and nodular enlargement of the left testis.

Interval history: About five months ago, patient began to notice burning on urination and frequency. No

[1]Steinthal, C., Urine and Kidney Findings with Renal Tuberculosis. Zeitschr. f. Urol. Chir., Berlin. 1922, X, 184.

hematuria. Burning on micturition, is very severe, appraching pain. Two and one-half weeks ago he noticed a nodule which began to develop on the left testis. There has been no return of symptoms in the right testis.

Physical Examination: Lungs, dullness at both apices with absent breath sounds. Whispered voice increased at both apices. Tactile fremitus normal. No rales heard.

Genitalia, small hard nodular mass 1 cu. cm. in size is felt at the lower pole of the left testis. Slight tenderness. No fluctuation. Long scar on scrotum, the site of previous operation.

General physical examination otherwise unimportant.

3/11/22. Left Orchidectomy.

Microscopical Examination: Tuberculosis of the left epididymis and testis.

3/15/22. Cystoscopy and Ureteral Catheterization. The appearance of the bladder, trigone, and ureteral orifices is normal.

Urine from Right Kidney. Very few W. B. C. No tubercle bacilli found.

Urine from Left Kidney. A large number of W. B. C. No tubercle bacilli found.

3/16/22. Catheterized specimen of urine; a few tubercle bacilli found, but no other types of bacteria.

3/17/22. Tubercle bacilli again found in specimen of catheterized urine. Other specimens of urine, not obtained by catheter, also showed a few tubercle bacilli. Two guinea pigs were inoculated with catheterized urine (at autopsy six weeks later showed marked lesions of tuberculosis).

3/24/22. Cystoscopy and Ureteral Catheterization. One c.c. of phenolsulphonephthalein injected.

Right specimen....15 c.c...30% Phenolpthal.

Left specimen.... 7.5 c.c...10% Phenolpthal.

3/27/22. Left Nephrectomy; A left, oblique, lumbar incision was made. The kidney was easily delivered, and there were no adhesions about it. It was normal in size and appearance. The upper end of the ureter felt slightly thickened. The vessels were ligated separately. The ureter, still attached to the renal pelvis, was stripped from surrounding tissue as far downward as possible, for about 10 cm., and ligated. The ureter was cut across, stump carbolized, after which it retracted out of sight. The incision was sutured in layers, without drainage.

Microscopical Examination: The kidney is normal in size and appearance. Its capsule strips with ease, leaving a smooth, glistening, pink, normal surface. Ten cm. of slightly thickened ureter are present.

The kidney was cut open in the midline. The cut surface of the kidney itself is normal in appearance. All of the papillae are normal except the lowermost one (see illustration), one half of the cut papilla is on one side, and one half on the other side, the tip of which is irregular, granular, and hemorrhagic. The mucosa of the pelvis is slightly edematous. There are four small, superficial ulcerations of the ureter (only one is shown in the illustration), the edges of which are red and the bases grey.

Microscopical Examination: *Ulcer of Ureter:* There is a small ulceration extending throughout the mucosa and practically through the submucosa (see illustration). The base of this is formed by a rather rarified granulation tissue similar to tuberculous tissue. No definite tubercles or giant cells are seen. About the ulceration there is a marked round cell infiltration. The vessels just beyond the ulceration show marked perivascular infiltration.

Ureter: The submucosa throughout shows marked round cell infiltration. Just beneath the mucosa there is a characteristic tubercle with giant cell (see illustration). A diffuse round cell infiltration extends through the thickness of the pelvic wall, in places showing a tendency to be perivascular.

Papilla (which has the gross appearance of being diseased and the kidney substance beyond this): The entire tip of the papilla shows a marked diffuse lymphocytic infiltration. There are a number of areas which in addition show beginning caseation surrounded by tuberculous granulation tissue (see illustration), other areas of tuberculous granulation tissue alone, and besides these, several typical miliary tubercles with giant cells. All of these areas are situated near the surface of the papilla. The largest area of caseation is immediately at the surface of the papilla. The remainder of the sections show no tuberculosis.

The *Parenchyma* and *Glomeruli* and *Interstitial Tissue* are normal.

Diagnosis: Tuberculosis of Renal Papilla and Upper End of Ureter.

Final Note: The patient is free from symptoms and working at the present time, twelve months after the operation.

THE UNIVERSITY OF WISCONSIN MEDICAL SOCIETY, REGULAR MEETING, TUESDAY, FEBRUARY 20, 1923.

AN EXAMINATION OF THE IDEAS OF VARIOUS PEOPLES AND RACES CONCERNING THE ANATOMICAL HABITAT OF THE SOUL.

BY HORACE MANCHESTER BROWN, M. D.,

MILWAUKEE.

Doctor Brown in a masterly presentation of this subject traced the underlying motive, giving an explanation for the search for this elusive element and a comprehensive resume of his studies on the subject over the past twenty years. He showed that to spiritualism and the other occult beliefs there was one common element, motion or movement, and that because of the inability to explain natural phenomena by physical laws, whirlpools,

cyclones and the like had been attributed to spirits or gods. He stated that the devotees of the ouiji board were one of the present day examples of adherence to such beliefs.

Doctor Brown in an engaging manner traced ideas as to the seat of the soul through the various peoples from the earliest known records. He stated that the Babylonians had placed the seat of the soul in the heart and the Egyptians placed the seat of the soul in the heart and bowels. The last named, therefore, believing that the soul left the body to pass before a judge on death, prepared for the physical necessities of the same by placing in the tomb the necessities of life. Certain savage races have felt that the shadow was the seat of the soul, while the Chinese placed the same in the liver. Since the soul of the fathers passed through the semen to the offspring in the male element, deference was shown to the male ancestors in this race. The Persians believed that the death of the body represented the flight of the soul from a substance which was too unclean to longer contain it. The Tartars and the Buddhists believed that on death the soul took residence in another animal, higher or lower in the scale dependent on the terrestrial habits of the dead. Homer believed the soul resided in the diaphragm. Pythagoras apparently derived his explanation of the soul from India and believed the body nothing and the soul all, which meant that the soul controlled the body. In India the belief was that the food was in one month changed to blood; the blood to fat; the fat to bone; the bone to marrow and the marrow to semen. Hippocrates adhered to the belief of the passage of the soul from the father to the son. He was apparently in some doubt as to the seat of the soul, but placed it either in the heart or brain.

One of the earliest philosophers to divide the function of the soul was Plato who believed that the functions of the soul were three—first, desiring (female); second, force (male); third, controlling (the supreme element). From this point Doctor Brown considered the various philosophers and their schools—Aristotle, Epicurus, Galen and the pneumatists.

Doctor Brown next took up the discussion of the relation of the Christian church to this question and after discussing certain of the earlier fathers of the Church, enlarged upon the dictums of St. Augustine, who felt that the soul entered the male fetus on the fortieth day and the female on the eightieth day. This lead to the adoption by the Church of the law that abortion constituted murder. Certain of the early Popes and fathers of the Church were discussed in the matter of their beliefs concerning the seat and nature of the soul.

The discovery of the circulation of the blood did not entirely rule out the question of the seat of the soul, but with Harvey's discovery in 1613, nothing but theory was left to the philosopher. It is noteworthy to remark that practically every writer on the subject had a theory of his own, and, furthermore, that practically every tissue in the body was at some time or other named as the seat of the soul. Doctor Brown called attention to the interesting persistence of an old time-honored belief—that the seat of the soul being close to the base of the brain and the cribriform plate of the ethmoid communicating so closely with the nasal passage, sneezing was early thought to be a method of cleansing the soul; hence the exclamation, "God bless you!"

After brief reference to certain of the more recent writers on this matter, Doctor Brown concluded by stating that fear unquestionably lead to the effort of individuals of all times and races to seek explanations for that which they could not understand nor see.

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

ENCEPHALITIS LETHARGICA.

BY H. M. GUILFORD, M. D.,
WISCONSIN STATE BOARD OF HEALTH.

The following article is largely a compilation of available literature of the past year. At the present writing there are indications that encephalitis is temporarily on the increase in Wisconsin, rising along with the influenza curve to greater heights than the preceding two years. The disease was first described as a clinical entity in the year 1917

and has undoubtedly since that time prevailed to a greater extent in Wisconsin than most physicians have been aware of. In the year 1921, there were 54 deaths attributed to it in the state and in the year 1922, there were 27 deaths. There were 2 deaths in January of this year and 7 in the first half of February.

In all probability there have been outbreaks prior to 1917 which occurred with influenza and having a wide range of symptoms escaped classification into a separate disease. Just what the connection with influenza is, is uncertain other than the fact that epidemics of the two occur simultaneously. Activation of the causative organism through the presence of influenza is one of the speculative opinions upon the subject.

CAUSATION.

Much experimental work has been done on causation. At the present time it may be regarded as a communicable disease due to an uncertain specific agent. A number of observers have laid stress upon the presence of "globoid bodies;" others make claims for a streptococcus. The Journal of the American Medical Association remarks editorially that it is agreed the disease is caused by an organism having a filterable form. To the average medical reader there is yet no definite certainty as to the exact causative organism. All observers claim the naso-pharynx to harbor the specific agent.

TIME OF INCUBATION.

According to Kling who made observations in a sparsely settled part of Lapland where settlements were a day's journey apart, the transmission is from person to person and the incubation period is ten days and abortive cases in which catarrhal symtoms predominate are frequent.

DEGREE OF COMMUNICABILITY.

The degree of communicability of the disease itself is the lowest of all known communicable troubles. It is somewhat analogous to poliomyelitis in that respect but has less recorded history of contact with other cases than even poliomyelitis has. The New York City Health Department Bulletin makes the statement that in one-half of one per cent in a various series of cases it has occurred in two members of the household.

In the Winnepeg epidemic there was from January 12th to March 5th of this year, 95 cases of valence of cases in so short a period, in a city of this size, speaks for a greater degree of communicability than has been hitherto known. It is said that no two cases could be traced to other sources. In this respect it differs in but slight degree from outbreaks of meningitis of similar extent where it is difficult to find relationship of cases in the great majority of those stricken. The incidence of cases among physicians is reported to be high which again speaks for a prevalence of undiagnosed cases with whom a physician is likely to come in contact. The probable truth of the matter is that there are an abundance of carriers, some mild cases, that escape observation and a high degree of immunity in most individuals.

AGE AND SEASONS.

Winter and spring are the seasons of preference. The greatest prevalence prevails under 45 years of age. It is considered to be more frequent in males.

SYMPTOMATOLOGY.

It occurs in a great number of clinical forms, varying in different epidemics and in different individuals in the same epidemic. The great difficulty in diagnosis has been because of its resemblance to so many other diseases of the nervous system, particularly at a time when influenza is abroad with its neurological complications. To put it shortly, epidemic encephalitis is a febrile disease. The temperature usually ranges from 100 to 102 degrees, lasts for a few days, then partly or wholly disappears.

Prodromes are described as coryza, headache, dizziness, muscular pains, sweating, blurred vision, gastro-intestinal symptoms of which constipation is a relatively common symptom, or any combination of the above. There may be no prodromes whatever. There is nothing especially characteristic about them. An extended classification of symptoms is not here possible. Such are to be found in the present day literature. It is sufficient to say that after the war the disease was commonly known by varying degrees of somnolence, palsies, especially of the cranial nerves and particularly of the eye muscles and asthenia. The Winnipeg epidemic is said to present a predominance of cerebral excitation cases with myoclonic symptoms.

A short classification would be as follows:

1. Somnolence or more rarely delirium and cerebral excitation.

2. In addition to the above are various palsies, especially cranial. Paralysis of the eye muscles, ptoses and double or blurred vision is likely to occur.

3. In addition to the above may be myoclonic symptoms, choreiform movements, convulsions, Parkinsonian symptoms.

4. In addition to the above are sensory symptoms such as headache, pain along a cranial nerve, pain in thorax or limbs.

5. In addition to the above there may be increased salivation or profuse sweating.

A combination of the above makes the diagnosis. Some neurologists claim to have difficulty in diagnosing poliomyelitis with cerebral involvement from epidemic encephalitis. The reflexes are variable, the blood count is variable but usually a slight or moderate leucocytosis prevails.

SPINAL FLUID.

At first it was denied that tests of the spinal fluid were of value. Recently it is claimed that its characteristics are an aid in diagnosis. The arrangement of the combination of increased cells, slight globulin increase, a certain gold curve and reduction with Fehlings solution are reported to be of value.

PROGNOSIS.

The New York Health Department Bulletin places the mortality at between 20 and 40 per cent. It states that ten per cent of these who recover will develop progressive nerve trouble. The last figure is at considerable variance with some recent articles on the subject which variously state that all the way from ten to thirty per cent make a good recovery, and that in the rest of the surviving cases there is a great variety of post-encephalitic conditions. The factor of time since the first outbreak is beginning to prove that point. The number of sequelae are described as "surprising and bewildering." These are likely to appear after a lapse of time in which apparent recovery has taken place. One of the most common of these sequelae is developing Parkinsonian syndrone (stiffening muscles and tremor). What the ultimate prospects of recovery from these sequelae are remains to be seen. Pupillary disturbances, facial asymmetry, muscular twitchings and jerkings, sensory disturbances, loss of memory and judgment, changes in character, insomnia, headache, paralytic symptoms and various major and minor psychosis are followers on the train of encephalitis and mark it as a trouble to be feared.

STATE BOARD OF HEALTH RULES.

It is a reportable disease and requires isolation in the acute stages, but not quarantine. It is the part of wisdom and accommodation to those round about not to transfer the secretions any further than necessary notwithstanding the limited effect it may have in lessening centers of infection.

PUBLIC HEALTH NEWS ITEMS.

In all probability the bills relating to the practice of medicine and public health which have been introduced at this session of the legislature constitute the most important news items to the medical profession of the State. A digest of all medical and public health bills is given below. Reports on the progress of these bills as they are acted upon by the legislature will be made in this column from time to time. In making these reports the bill will be referred to by number, so that this issue should be kept for reference.

PROGRESS OF STATE LEGISLATION.

(As of March 22.)

No. 130-S, by Senator Benfey, Sheboygan, creating a board of examiners in the basic sciences (anatomy, physiology, pathology and diagnosis), applying to all who practice the art of healing (by any means other than mental and spiritual), except dentists, nurses, and midwives. The measure would not apply to any person licensed or permitted to practice any system of the healing art in this State prior to February 1, 1923.

Recommended for passage with amendment by Senate Committee on Education and Public Welfare, and re-referred to Joint Committee on Finance. Financial aspects of bill approved for passage by Finance Committee. On Senate calendar March 21. Several amendments offered and bill laid over until March 28.

Bill referred to Committee on Education and Public Welfare for purpose of drawing substitute.

No. 363-A, by Assemblyman Minier, New Richmond, creating a board of chiropractic examiners, composed of three chiropractors appointed by the Governor, not more than two members to be graduates of the same school of chiropractic. License fee to be $25. Office to be provided in Capitol

Building for meetings of the board. All present practitioners may be licensed upon application but board may insist upon their passing an examination. All future applicants to be licensed after evidence is furnished of completion of chiropractic training of not less than eighteen months. Chiropractors required to furnish all reports authorized by board of health, including reports of contagious diseases and signing of death certificates.

Recommended for passage by Assembly committee on Public Welfare with two amendments. Amendments adopted which would limit appointments so that not more than one member would be a graduate of the same school of chiropractic. Bill advanced by Assembly by viva voci vote. Will now be referred to joint committee on finance before coming up for final passage in the Assembly.

No. 46-S, by Senator Barber, Marathon, bringing women under the provisions of the ante-nuptial physical examination law.

Indefinitely postponed, 16 to 12, February 21.

No. 373-A, by Assemblyman Spoor, Berlin, repealing the law requiring ante-nuptial physical examinations for males.

Ordered engrossed by the Assembly without roll call, March 20.

No. 396-A, by Assemblyman Peltier, Brussels, requiring quarantine of all persons subjected to vaccination for smallpox, "such quarantine to be of equally rigid character as that employed in the care of persons afflicted with smallpox, and this quarantine shall continue through the period of incubation of the infection, and when the disease vaccinia develops it shall continue until all signs of the disease have disappeared and the scab or scabs have fallen off the sore or sores produced by the application of the virus."

Recommended for indefinite postponement by Committee on Public Welfare.

No. 397-A, by Assemblyman Peltier, Brussels, repealing the compulsory feature of the vaccination law as applied to attendance at school during outbreaks of smallpox, and prohibiting the compulsory application of vaccination or inoculation upon any person "as a condition for the exercise or performance of any right, privilege or duty."

Recommended for indefinite postponement by Committee on Public Welfare, March 16. Reconsidered, ordered engrossed without roll call, March 22d.

No. 37-S, by Senator Burke, Green Bay, changing the mandatory clause in the county nurse law, making such employment optional with county boards.

Indefinitely postponed, 19 to 11, February 28.

No. 61-A, by Assemblyman Blomberg, Ogema, permitting counties to dispense with employment of county nurses upon a majority vote in a county-wide referendum.

Indefinitely postponed, 43 to 30, March 3.

No. 22-A, by Assemblyman Barker, Antigo, changing the county nurse law from mandatory to optional, such employment to be made upon a majority vote of the county board.

Passed by Assembly, 46 to 31, March 16.

No. 93-A, by Assemblyman Lindahl, Superior, making the employment of county nurses optional with county boards.

Indefinite postponement recommended by Committee on Public Welfare.

Mr. Lindahl amended his bill to provide that such nurses *shall* be employed but that their salaries shall be paid by the state board of health out of its appropriation. Amendment adopted by Assembly and bill laid upon the table, March 6.

No. 424-A, by Assembly Committee on Public Welfare, requiring the examination for venereal disease of all vagrants and persons arrested for disorderly conduct, with the exception of drunkenness, and requiring treatment for cases found positive.

Recommended for passage by Committee.

No. 425-A, by Assembly Committee on Public welfare, prohibiting the employment in hotels, restaurants or other public eating places, or in bakeries, dairies, meat markets, etc., of any person having a communicable disease or any venereal disease in a communicable form.

Indefinitely postponed, March 14. Vote reconsidered and bill ordered engrossed, March 22.

No. 426-A, by Assembly Committee on Public Welfare, permitting, besides the state health officer and deputy state health officers, "other qualified officer of the state board of health" to file complaint against persons with venereal disease to compel their commitment to a state or county institution for required treatment.

Referred to Committee on Public Welfare and passage recommended, March 16. Ordered engrossed, March 22.

No. 139-S, by Senator Morris, Milwaukee, enacting the "State Narcotic Law," prescribing ad-

ditional stringent regulations governing the sale and administration of narcotic drugs, providing penalties, etc. Applicable to physicians, pharmacists, manufacturers and jobbers, veterinarians, dentists, nurses, hospitals, embalmers, etc. Violations to be classed as felonies.

Passed by Senate with two amendments, March 7. Received by Assembly and referred to Committee on State Affairs.

No. 80-S, by Senator Schumann, Watertown, removing the provision that in appointing members of the Wisconsin State Board of Medical Examiners the governor shall adhere to a prescribed proportion of members as between the several schools of medicine.

Passed by Senate, February 21. Received by Assembly and referred to Committee on Public Welfare.

No. 260-S, by Senate Committee on Education and Public Welfare, creating the position of toxicologist in the department of pharmacology and toxicology at the state university, at a salary not exceeding $4,500, who shall make without charge toxological analyses of human and animal material submitted by any district attorney.

Referred to Committee on Judiciary.

No. 57-S, by Senator Barber, Marathon, to apply the same penalty to pregnant women permitting an aboration as applies now to the physician who performs the abortion, and to any person who induces or promises to pay another to perform such operation.

Amended in Senate to strike out the provision applying penalty to pregnant women permitting abortion, and as so amended the bill passed. Now pending in Assembly; referred to Judiciary Committee.

No. 210-S, by Senator Ridgway, Elkhorn, permitting admission to state and county sanatoria of any person with symptoms of tuberculosis calling for careful observation in order to make a diagnosis, the need for such admission to be determined by the superintendent and visiting physician. Such patients who are unable to pay for care shall be admitted at expense of counties.

Passage recommended by Committee on Education and Public Welfare, March 16. Ordered engrossed by Senate, March 21.

No. 109-S, by Senator Schumann, Watertown, requiring the tuberculin testing of all cattle in the state within the next five years, without expense to owners; prohibiting sale of cattle at public auction unless they have passed the test; appropriating for indemnities for cattle slaughtered for tuberculosis.

Referred to Committee on State Affiairs.

No. 167-S, by Senator Severson, Iola, relating to disclosure of information by physicians in civil actions and proceedings.

Action was taken by the Senate on substitute amendment offered by Judiciary committee, amending present law to permit physicians employed directly by the patient or in his behalf to testify in civil actions concerning the patient's physical condition when such testimony is material to the matter in litigation.

Substitute amendment ordered to engrossment and third reading, March 15.

No. 129-S, by Senator Quick, Milwaukee, amending the optometry law by requiring a high school education or its equivalent as a condition to future licensing of optometrists; adding anatomy, physiology, pathology of the eye and its appendages to list of required subjects in examination, and raising the examination fee from $10 to $15.

Indefinitely postponed, February 28.

No. 168-S, by Committee on Education and Public Welfare (Senate), requiring all cities above 15,000 population to employ full-time health officers (bringing Beloit, Janesville, Eau Claire, Fond du Lac, Manitowoc and Wausau under the full-time H. O. statute).

Indefinitely postponed, 21 to 8, March 7.

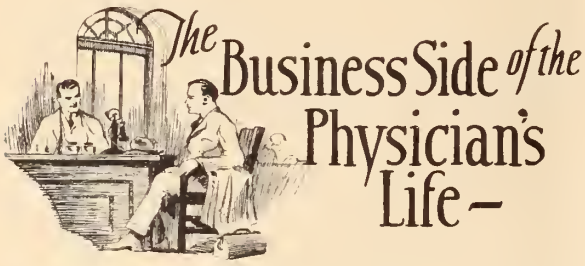
No. 107-S, by Senate Committee on Public Welfare, apportioning the expense of communicable disease control measures in joint school districts among the towns, villages or cities comprising the district.

Indefinitely postponed, March 7.

No. 86-S, by Senator Schumann, Watertown, adding the following section to the present law relating to the licensing of physicians, surgeons and osteopaths: "Any person holding a certificate of registration in accordance with the provisions of chapter 87 of the laws of 1899, who shall have been engaged in the practice of medicine, surgery or osteopathy since July 1, 1899, shall be granted a license without examination upon presenting said certificate to the board with the application for such license and a fee of five dollars and sur-

render said certificate on the issuance of said license."

Passed by Senate March 7; received by Assembly and referred to Committee on Public Welfare.



Has your wife an income account of her own?

I don't mean the one you may have married her with, but one that you have provided out of your earnings. If not, you are overlooking a good bet.

First of all, a husband and wife who make separate returns on the family income do not pay as high a super tax on their federal returns as they would if a single return is made. Second the rate of the inheritance tax on large estates is proportionately much higher than it is on small or moderately sized ones. The government, therefore, puts a double premium on your distributing your estate before you die—providing only that it is done without contemplation of immediate death, in other words for the specific purpose of dodging taxes.

Now, according to my notion, the average wife is a good deal better than the average doctor, and she doesn't have to be a world beater to have a better business head. More than most women, furthermore, she's had a lot to do with the building up of the family's fortunes. Even when she hasn't been the sole bookkeeper and the manager of the collection department, she's had a lot of grief with the telephone, has had her sleep broken by the night calls, and in many ways she has had a hand in the building up of the practise.

In her social life she has often been made to forego theaters and like events and her digestion has been ruined along with that of her husband's by eating meals long after they were prepared. In short she has needed about as much fortitude to "keep on keeping on" as friend husband.

Why shouldn't she also share in handling the estate while the handlings good instead of waiting until her husband is dead and until she may be too old to learn what everybody should know to handle property safely and profitably. The stories we hear about widows and orphans being fleeced out of their money by "slickers" aren't figments of somebody's wild imaginations by a long shot. Considering the amount of preparation for handling business affairs most wives have, the wonder is they even get by the undertaker before losing the family bankroll.

Now there's just a possibility that your wife is more improvident than you. If she is, she is the exception and not the wife we're thinking and writing about. Perhaps she wouldn't look after the children's interests so well. Possibly! Possibly! But I'd rather trust a reasonably intelligent living mother than any will that was ever devised by the wisest old owl guided by all the precedents from Blackstone down. Even the best of our lawyer friends seem unable to write a will that no one can trifle with. I recall one famous lawyer who had spent his life in drawing up wills, both the simple kind and the intricate ones that the heavy money interests require. He drew up his own will, and if any will should have been iron tight, that one should have been. It wasn't. They blew it full of holes in spite of all his efforts.

The intelligence you have in respect to business, investments, or what not is merely the sum of your original brains, your study and your experience. You weren't born so smart. You didn't start setting the world on fire at a tender age. What has made you the man you are will make your wife the woman she can become if you provide her with the opportunity to acquire the necessary experience.

The notion that women have no capacity for business dates back to the stone age. Of course they haven't, if they are given no chance to learn. Keep your wife in ignorance of your affairs throughout your life, shield her from all contact with business affairs, and you might as well make your six year old boy your administrator when you die.

Give the women a chance. Many of them show a surprising capacity for business. Many of them make the average man blush for shame at his own lack of capacity. Give your wife a chance. She may be one of those with special adaptness for business, in which case she'll make you prosperous in spite of yourself. And at any rate, she'll probably be as good a "business man" as you are.

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Waukesha	Wm. E. Nicely, Waukesha	S. B. Ackley, Oeonomowoe.
Waupaea	E. H. Jones, Weyauwega	A. M. Christofferson, Waupaea.
Winnebago	Ronald Rogers, Neenah	S. D. Greenwood, Neenah.
Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield

SOCIETY PROCEEDINGS

EAU CLAIRE COUNTY

Dr. Harold E. Marsh, director of medicine in the Jackson Clinic, Madison, addressed the members of the Eau Claire County Medical society, March 26, on "The Use of Insulin in the Treatment of Diabetes." Doctors Tupper, Lyman and Mitchell discussed the paper. Dr. Percy Brown of the Jackson Clinic, Madison, spoke on "Radiotherapy," which was followed by a discussion led by Drs. Baird, Midelfart and Ziegler. Dinner was served to the members of the society at Eau Claire hotel at 6:30.

FOND DU LAC COUNTY

Dr. H. A. Devine delivered an interesting paper on "Differential Diagnosis of Gall Bladder Diseases, Appendicitis and Ulcer of the Stomach," at the regular meeting of the Fond du Lac Medical Society in the Hotel Retlaw banquet room March 14th. The medics enjoyed a 6:30 banquet and a popular discussion of Dr. Devine's paper. There were 23 members of the society present. Dr. Richard Pullen, a nephew of Dr. A. J. Pullen of this city and a recent graduate of Harvard University, was a guest at the meeting.

MARATHON COUNTY

Discussion of the results of a recent ballot concerning the medical practice act formed the basis for the February meeting of the Marathon County Medical Society. The eight questions upon which twenty-six members recorded their opinions and the results of the ballot follow:

1. Do you want the Chiropractor licensed to sign death and birth certificates? Yes—0 No—26.
2. Do you want a chiropractor on the State Board of Examiners? Yes—4. No—22.
3. Do you want the Chiropractor to have a special board of examiners? Yes—3. No—23.
4. Do you want the present system of list selection of appointments to the State Board of Examiners continued? Yes—20. No—4.
5. Should we recognize the registered practitioner and place him on the same basis as the licensed physician? Yes—18. No—8.
6. Do you approve of the present medical practice act? Yes—4. No—20.
7. Do you favor unemployment insurance? Yes—0. No—26.
8. Do you favor State Medical Practice similar to that maintained in Europe? Yes—1. No—24.

THE MARINETTE-FLORENCE COUNTY MEDICAL

The Marinette-Florence County Medical Society met March 16 1923 at Dr. Mays office, Dr. T. J. Redelings, the president presiding. Dr. John T. Kaye of Menominee Mich. read a most exhaustive paper on Diphtheria. He cited many cases to show the value of using stain in treating the nasal and other forms of the disease. Also that care should be used in giving antitoxin to hay fever patients or persons with a predispostion to horse dandruff.

Dr. T. J. Redelings read the report of a case prepared by his son. Dr. Leslie Redelings, of San Diego Calif., which showed great care and much study and indeed was very interesting.

A resolution was passed asking the City Administration to procure an Isolation Hospital for use of the Health Department.

There was a good attendance, there being several men from out the city. A splendid lunch concluded the program, and all expressed themselves of having had a pleasant and profitable evening.

MILWAUKEE ACADEMY OF MEDICINE

The regular meeting of the Milwaukee Academy of Medicine was held in the Asembly Hall, Health Service building, 558 Jefferson Street, Milwaukee, Tuesday, March 13, at 8:15 P. M.

The program given was as follows:

1. Presentation of Cases, Specimens and Interesting Roentgenograms.
2. Report of the Effect of Multiple Transfusions upon a case of Grave Anaemia. C. D. Miller, M. D. (By invitation.)

Discussion opened by J. L. Yates, M. D. and Edwin Henes, Jr., M.D.

3. Report of a Case of Thrombosis of Lateral Sinus of Streptococcic Origin. W. W. Hume, M. D. (By Invitation.)

Discussion opened by W. E. Grove, M. D.

4. Usual Forms of Tuberculosis in Children of school age with presentation of plates. George R. Ernst. M. D.

PROGRAM

Tuesday, March 27.

1. Insulin treatment of Diabetes—Report of five Cases.) William Thalheimer.
2. Importance of Embolism as a cause of Post Operative Complications. E. O. Larson. (By Ivitation.)
3. A study of Basil Metabolism of neurotic individuals with some suggestions pertaining to the Goiter Problem. Lloyd H. Ziegler, U. S. Veterans Hospital No. 37, Resthaven, Waukesha.

THE MEDICAL SOCIETY OF MILWAUKEE COUNTY

The regular meeting of The Medical Society of Milwaukee County was held at the Hotel Pfister on Friday evening, March 9, 1923, at 8:30 o'clock.

1. Food Poisoning. Dr. J. C. Geiger of the United States Public Health Service. By invitation.
2. The Schick test and the use of Toxin-antitoxin in combating Diphtheria in Milwaukee. Dr. W. W. Bauer of the Milwaukee Health Department.

Dr. Geiger, with associates, has recently completed a two year U. S. P. H. S. survey of the ripe olive industry in California. Following the spectacular out-

break of botulism from ripe olives he was detailed by the Service to investigate its causes. His two years' work with the University of California and Stanford and the past year with the University of Chicago has thrown great illumination upon the general subject of food poisoning. His talk was illustrated.

The regular meeting of the Society was held at the Hotel Pfister on Friday evening, April 13, 1923, at 8:00 o'clock. The following program was presented:

1. Acute Hemorrhagic Nephritis in Children. By Dr. Clifford G. Grulee of Chicago. By invitation.

2. Urology in Infants and Children (lantern demonstration.) Dr. Herman L. Kretschmer of Chicago. By invitation also.

Arrangements were made for a pediatric clinic to be held from 4:00 to 5:30 P. M. in the new quarters of the Marquette Dispensary Clinic (on the second floor of Trinity Hospital.) Dr. Grulee conducted this clinic, using material from the Dispensary and Hospital.

OUTAGAMIE COUNTY

The regular meeting of the Outagamie County Medical Society was held at the Hotel Appleton February 27th, 1923. There were twenty-two members present at this meeting. Following a banquet at the hotel the usual business of the society was transacted. Following the business meeting a most excellent paper was read by Dr. Mielke, Appleton entitled "Fundamentals in the Diagnosis of Heart Conditions," Discussion on this paper was led by Dr. Robert Mitchell, Appleton, after which a general discussion of nearly all of the members of the society took place. This proved to be a most valuable topic, and also a most valuable meeting.

Motion made and carried that the secretary be instructed to write Dr. Sleyster a letter of appreciation for his valuable services as State Secretary.

RACINE COUNTY

The regular meeting of the Racine County Medical Society for February 22nd, was held in the class room at St. Mary's Hospital, Racine, at 4 P. M. Dr. W. B. Ford of Milwaukee addressed the meeting on the subject of "Endocrinology." The attendance was good.

ASSOCIATION NEWS

ANNOUNCEMENT OF MEETING OF THE WISCONSIN STATE SURGICAL ASSOCIATION.

F. J. Gaensler, M. D., *President.*

The next meeting of the Wisconsin State Surgical Association will be held at La Crosse Wisconsin on May 9th and 10th, 1923. A cordial invitation is hereby extended to all members of the Wisconsin State Medical Society to come and participate in the meeting and its discussions. Drs. Flynn of La Crosse is Chairman of Committee on local arrangements.

The following program will be presented:

MAY NINTH—MORNING.

7:30 to 8:45—Clinics in La Crosse Hospitals.

9—Harting Stang, M. D.....Eau Claire
"Some interesting kidney conditions found in every day practice, and treatment."

10—W. E. Bannen, M. D.....La Crosse
"Some Genito Urinary Surgical Cases."

11—John H. Stokes, M. D.....Mayo Clinic
"Some aspects of Syphilology of Bone Surgery."

AFTERNOON.

1:30—Arthur F. Bratrud, M. D.....Minneapolis
"Peripheral Nerve Injuries."

2:30—Eric Wisiol, M. D.....Marshfield
"Pathogenesis of Gastric Ulcer."

3:30—B. F. Lounsbury, M. D.....Chicago
"Medical and Surgical Treatment of Gastric Ulcer."

4:30—A. S. Loevenhart, M. D., and H. L. Schmitz.....
.....U. of W., Madison
"Recent work on some New Anesthetics."

5:30—F. G. Connell, M. D.....Oshkosh
"Subject later."

EVENING—BANQUET—6:30.

1—Presidents' Address—F. J. Gaenslen, M. D.....
..... Milwaukee
"The Care of the Crippled."

2—H. M. Brown, M. D.....Milwaukee
"Biologic Causes of Incompetency."

3—Dean D. Lewis, M. D.....U. of C., Chicago
"Subject later."

MAY TENTH—MORNING.

7:30 to 8:45—Clinics in La Crosse Hospitals.

9—J. R. Minahan, M. D.....Green Bay
"A Method of Removing Metalic Material from the Lungs."

10—R. J. Pennington, M. D.....Chicago
"Rectal Surgery."

11— J. L. Yates, M. D.....Milwaukee
"The Therapeutic Significance of a Biological Conception of Cancer."

AFTERNOON.

1:30—Carl Davis, M. D.....Milwaukee
"The Surgery of Retrodisplacements of the Uterus."

2:30—F. A. Stratton, M. D.....Milwaukee
"Retro-Peritoneal Tumors."

3:30—Frederick J. Plondke, M. D.....St. Paul, Minn.
"Modern Treatment of Goitre."

4:30—H. T. Kristjanson, M. D.....Milwaukee
"Value of Transfusions of Blood in Anemias."

5:30—J. F. Pember, M. D., & T. W. Nuzum, M. D.....
..... Janesville
"The Surgery of Abdominal Tuberculosis."

Chas. Fidler, M. D., Sec'y Pro Tem.

MINUTES OF THE MEETING OF THE COUNCIL STATE MEDICAL SOCIETY OF WISCONSIN.

UNIVERSITY CLUB, MILWAUKEE, FEBRUARY, 1, 1923.

The Council was called to order Thursday A. M., February 1, 1923, with the following members present: Doctors Smith, Mitchell, Dodd, Windesheim, Connell, Redelings, Wilkinson and Evans. The following were also in attendance at the meeting: Doctors Sleyster, Hall, Seelman, and Quick, and Mr. J. G. Crownhart.

The minutes of the previous meeting were presented by Dr. Sleyster and approved.

The following officers were reelected for the year 1923: Chairman of the Council, Dr. Edward Evans, La Crosse; Treasurer, Dr. S. S. Hall, Ripon.

Secretary Sleyster reported that the Committee appointed to select and employ a full time Executive Secretary had chosen J. G. Crownhart of Madison at a salary of $3600 annually. Moved by Dr. Smith that the Committee report be accepted, and that Mr. Crownhart be formally elected Executive Secretary and Managing Editor of the Journal, at the salary stipulated. Motion carried.

Upon motion of Dr. Connell, Drs. Sleyster, Lotz, Dearholt, Patek, and J. P. McMahon, were chosen as members of an Advisory Committee for the Executive Secretary.

Report of the Treasurer by Dr. Hall.

TREASURER'S REPORT.

Milwaukee, Wisconsin, January 1, 1923.

S. S. HALL, TREASURER, IN ACCOUNT WITH THE STATE MEDICAL SOCIETY OF WISCONSIN.

DEBTOR.

Balance on hand September 1, 1922	$5,243.82
Received from Secretary for County Dues	356.00
Received from A. J. Wiesender, Chairman Com. of Arrangements	11.23
Total	$5,611.05

CREDITOR.

1922			
Sept.	15—M. P. Ravenel, Expense	$ 41.90	
	23—Chas R. Thrasher, Rent Hall	100.00	
	Dr. Harry G. Sloan, Expense	60.00	
Oct.	6—Rock Sleyster, Salary July, August and September	150.00	
	Bessie P. Mason	150.00	
	Dr. J. A. Lichter, Expense	57.64	
	Cannon Ptg. Co., account Seey	137.50	
	L. C. Smith & Bros., Repair Typewriter	12.65	
	Lines, Spooner & Quarles, Lotz and Cunningham	100.70	
	16—Dr. Lloyd T. Brown, Expense	124.66	
	Wisconsin A. T. Ass'n, "Crusaders"	103.50	
	20—Dr. Roland S. Cron, Expense	38.90	
	24—Dr. Walter E. Dandy, Expense	110.00	
Nov.	3—Dr. Rock Sleyster, Expense	14.56	
	29—Dr. W. D. Stovall, Expense Conference Secretaries	18.42	$1,220.43
	Total		$1,220.43
	Balance		4,390.62
			$5,611.05

TREASURER'S REPORT, M. F. D.

Milwaukee, Wis., January 1, 1923.

S. S. HALL, TREASURER, IN ACCOUNT WITH THE STATE MEDICAL SOCIETY OF WISCONSIN.

DEBTOR.

Balance on hand September 1, 1922	$3,759.77
Received from Secretary for County Dues	148.00
Total	$3,907.77

CREDITOR.

1922		
Nov.	21—Lines, Spooner & Quarles	$3,190.30
	Total	$3,190.30
	Balance	717.47
		$3,907.77

Discussion of Legislative program. Drs. Quick and Seelman reported for the State and Milwaukee County Committees respectively. Moved by Dr. Wilkinson that the Council urge the Legislative Committee to act in conjunction with the Legislative Committee of the Milwaukee County Society to introduce a "Basic Science Bill" at this session of the Legislature; and that no reference be made to chiropractic bills. Motion carried.

Moved by Dr. Wilkinson that the Extension Division of the University of Wisconsin be requested to lend aid to audit present books of the Secretary and Managing Editor, and to install the most efficient system of bookkeeping. Motion carried.

Moved by Dr. Windesheim that the Council hereby approve the act of the House of Delegates empowering the president to submit a list to the Governor from which, by statute, he is to select certain members for the State Board of Medical Examiners. Motion carried. The list was then announced as follows: Doctors Spencer Beebe, Sparta; J. M. Dodd, Ashland; Oscar Lotz, Milwaukee; F. B. McMahon, Milwaukee; H. T. Kristjanson, Milwaukee; C. J. Combs, Oshkosh; W. Cunningham, Platteville; Curtis Evans, Milwaukee; James Jackson, Madison; J. Gurney Taylor, Milwaukee. Upon motion by Dr. Redelings the Council approved the list as read.

Secretary Sleyster opened a discussion on possible discontinuance of the medical defense fund of the Society. It was the consensus of opinion that no action was warranted at this time.

Upon invitation of the Council, Mr. C. A. Bonner, Milwaukee Manager of the Aetna Insurance Company, addressed the Council on the group plan of mal-practice insurance. Moved by Dr. Redelings that the Council go on record as favoring every phase of group insurance, and that the Executive Secretary be instructed to present this subject to the members through the Journal, and that the question be presented to the next meeting of the House of Delegates. Motion carried.

Secretary Sleyster reported that the recent action in the raising of dues has had satisfactory response. He reported that 661 members had paid their dues to date, as compared to 405 at the same time a year ago.

Moved by Dr. Smith that the Council authorize the Executive Secretary to make necessary traveling, office furniture, and other expenses, with advice and consent of the Advisory Committee. Motion carried.

Moved by Dr. Mitchell that a suitable bond be executed for the Executive Secretary and that the Society pay the expenses so incurred. Motion carried.

Secretary read a letter from the Judicial Committee of the American Medical Association referring to unethical publicity by the Sheboygan Clinic in the Sheboygan (Wis.) Press Telegram, for May 13, 1922. After discussion the Secretary was instructed to write the Clinic that the Council heartily disapproved the advertising referred to.

There being no further business the Council adjourned at four P. M.

Respectfully submitted,
J. G. CROWNHART,
Executive Secretary.

CORRESPONDENCE

That the U. S. Veterans' Bureau is not encouraging disabled soldiers to study chiropractic and that such study may be prohibited in the future is the response from officers to that bureau to the State Medical Society. Copies of the resolution passed by the last House of Delegates were transmitted to Col. C. R. Forbes, Director U. S. Veterans' Bureau; Director Rehabilitation Division, Veterans' Bureau, and Wisconsin's Senators.

The following replies indicating the position of the Bureau will be of interest to the profession:

February 28, 1923.

Mr. J. G. Crownhart, Executive Secretary,
The State Medical Society of Wisconsin,
Milwaukee, Wisconsin.

My dear Mr. Crownhart:

This will acknowledge receipt of the letter dated February 14th, from the State Medical Society of Wisconsin, inclosing copy of a resolution adopted at the meeting of that Society protesting against the provision of chiropractic training as a means of vocational rehabilitation of disabled ex-service men.

You are advised that the entire subject of chiropractic training has been under advisement for some time by this Bureau, but that to date there has been no decision to discontinue this type of training in those states where chiropractics are recognized by the law.

I desire to thank you for your interest in this matter and assure you that the Bureau in deciding this question will give due consideration to the facts cited in the resolution of the Wisconsin Society.

Very truly yours,
C. R. FORBES,
Director.

February 27, 1923.

Mr. J. G. Crownhart, Executive Secretary,
The State Medical Society of Wisconsin,
Milwaukee, Wisconsin.

Dear Sir:

Your letter of February 14, 1923, enclosing a copy of a resolution passed at a recent meeting of the State Medical Society of Wisconsin, has been read with much interest, and consideration has been given the contents thereof.

The subject of chiropractic training has been given much serious thought by this Bureau during the past year. As a result, certain definite qualifications have been set up and must be complied with before a bene-

ficiary of the Bureau may be entered upon a course in an institution teaching chiropractic.

The requirements necessary for entrance into chiropractic training are:

a. No trainee will be entered in training for chiropractic in states wherein the practice of chiropractic is illegal.

b. A trainee desiring chiropractic training must establish, by affidavit or otherwise, that it is his purpose after completion of training to practice in a state in which the practice of chiropractic is legal.

c. The educational qualifications for entrance into chiropractic training will be high school graduation, or its equivalent.

d. When a trainee is inducted into training for the employment objective of chiropractic his individual training program will cover the requirements of the state in which he intends to practice.

Although the Bureau has been obliged to grant chiropractic training in instances where evidence has been shown that the students would practice only in states where chiropractic is lawful, you may see that this training is not being generally encouraged.

I am glad to have had an expression of your convictions in this matter.

Very truly yours,
H. V. STIRLING,
Acting Assistant Director,
Rehabilitation Division.

March 17, 1923.

Dr. Rock Sleyster, Secretary,
State Medical Ass'n of Wisconsin,
Wauwatosa, Wisconsin.

Dear Sir:

With further reference to the American Medical Association convention to be held in San Francisco, June 25th to 29th.

Our Passenger Traffic Department at St. Paul, Minn., informs us that Dr. J. Earl Else, President of the Pacific Northwest Medical Association, advises that his association will hold a convention in Seattle June 19th to 21st, inclusive, and that an invitation has been sent to medical men in the East asking them to go via Seattle and attend the Seattle convention on their way to San Francisco.

We are giving you this information, trusting you will give it consideration when making plans for attending the national meeting.

Yours truly,
J. C. McCUTCHEN,
General Agent.

Z:G

March 20, 1923.

Dr. Rock Sleyster, Editor
Wisconsin Medical Journal,
Milwaukee, Wisconsin.

Dear Sir:

Will you kindly publish in your Journal the following information concerning examinations by the National Board of Medical Examiners.

Part I, June 25, 26, 27, 1923; Part II, June 28, 29, 1923.

Part I, Sept. 24, 25, 26, 1923; Part II, Sept. 27, 28, 1923.

All applications for these examinations must be made on or before May 15th.

Further information may be obtained from the Secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

Very truly yours,
J. S. RODMAN, *Secretary.*

NEWS ITEMS AND PERSONALS

Dr. F. E. Tryon, Baraboo, has been appointed by Governor Blaine as coroner of Sauk County. He succeeds John B. Wade, resigned.

Dr. George Mason, Racine, has returned to his practice following an extended visit to California.

Settlement of the $15,000 malpractice suit against Drs. J. Clyde Smith and Thomas F. Shinnick, Beloit, was made this month. The suit was brought by Mrs. Helen Kruetzer, following her husband's death after an operation on the throat. Kruetzer was a haemophilic and the physicians were charged with negligence.

Earthquakes are no longer a thrill, according to Dr. G. A. Bading, former mayor of Milwaukee. Dr. Bading is now minister to Ecuador with residence at Quito.

Assemblyman John Peltier of Door County is suspicious of physicians who write prescriptions in Latin. He has introduced a bill which would compel all physicians to restrict their vocabulary to the English language.

Announcement of a new charity hospital and sanitarium to be built in Madison this summer has been made by the Seventh Day Adventists. The hospital will specialize in the care of the sick and infirm who are unable to pay their expenses.

Captain (Doctor) Arthur L.Weisgerber, medical corps, Superior, has been awarded a silver star citation for gallantry in action. Captain Weisgerber was attached to the 47th Infantry, 4th Division, and his citation came as a result of his evacuation work while under fire at Bois Brieulles, in September, 1918.

"Although himself severely gassed, wounded in the leg by machine gun fire, he continued in the performance of his duty until all had been removed," declared the War Department citation.

Barron County lost one of its oldest landmarks when work was begun this month in dismantling the old Lakeside Hospital building at Rice Lake. It was erected

in 1871 as a hotel and has been used as a hospital since 1915.

Children will be instructed in disease detection if Assemblyman Anton Holly, Kewaunee County, secures the passage of his latest bill. He would compel the teaching of a "junior course" in the schools to inform children of the symptoms of the common contagious diseases.

The Wisconsin Anti-Tuberculosis Association announces the addition of Dr. J. F. Shimpa, Boscobel, to its staff as result of a broadened scope of its medical service. Dr. Shimpa is a graduate of the University of Wisconsin and Rush Medical College, devoting himself exclusively to tuberculosis work at the U. S. Veterans' Hospital, Chicago, since graduation.

Deaths from apoplexy and cancer are on the increase in this State, according to the report of the State Board of Health. Deaths from cancer were 2603 in 1921 as compared to 1673 in 1912, while deaths from apoplexy were 3372 in 1921 as compared to 1466 in 1912.

A $500,000 hospital for south side Milwaukee, is the aim of residents of that section. A city wide campaign will be conducted the latter part of May to raise the necessary funds.

Dr. Sherman Mount, Milwaukee city health department, was seriously injured by a North Shore interurban on March 22nd. Dr. Mount suffered a fractured skull.

Articles of incorporation have been filed at Madison for the construction of the Loren Restoration Hospital at Summit, Waukesha County. The estimated cost is $200,000.

Dr. and Mrs. S. S. Stack, Milwaukee, have recently returned from a two weeks' trip to French Lick Springs and other southern points.

Bids have been taken on a two-story hospital for Frederik, Polk County. The hospital will be erected by Dr. R. C. Arveson and will include two operating rooms, offices and an x-ray room.

Dr. Nels G. Werner, Barron, will assume surgical duties with an Eau Claire hospital this spring.

Dr. and Mrs. C. G. Johnson, Milwaukee, have returned from an extended tour through South America and the West Indies.

A bill to amend the present law to permit Milwaukee County to receive paying patients in its new 500 bed county hospital to be erected on the Schandein property, Milwaukee, will probably receive the approval of the legislature.

Establishment of a course in clinical training for office assistants has been announced by the Jackson Clinic, Madison. The course will extend over a period of two years.

Medical problems were discussed before the Oshkosh City Club on March 22nd, by Dr. C. J. Combs. The good accomplished by vaccines, the difference between the conscientious practitioner and the quack and like problems were the basis of the discussion.

Agitation for a city hospital at Clintonville, Waupaca County, is now under way. It is pointed out that the nearest hospital is located at Appleton, forty miles distant.

Monthly clinic days have been established at St. Mary's Hospital, Madison. Pneumonia and gastric and duodenal ulcer were the subjects for the January and February meetings. Visitors are invited to the discussions.

That sixty-five percent of the physicians in Wisconsin who have been issued Federal licenses to prescribe intoxicants use up "every prescription blank they can lay their hands on," was the recent statement of Clark M. Perry, Milwaukee, state federal prohibition director.

Mr. Perry declares that "general debility is the most popular reason for issuing the certificates."

A weekly lecture series for mothers is now being conducted by the Milwaukee Maternity Hospital. The addresses will continue throughout the spring.

Protection of the rights of the public against fraud rather than protection for the medical profession was declared to be the basis for legislation now urged by the State Medical Society, by Dr. E. F. Bickle before a recent meeting of the Oshkosh Candlelight Club. Dr. Bickle spoke on "Recent Medical Legislation in Wisconsin," pointing out the fallacy in the opposition which develops against well recognized efficient measures.

Dr. J. F. Schneider addressed the club on the subject of "Quacks," declaring that the methods of the quack are questionable, if not actually reprehensible.

DEATHS.

Mrs. Warren D. Leary, nee Miss Mary Evans, daughter of Dr. Edward Evans, La Crosse, died at a La Crosse Hospital on April second. Mrs. Leary was brought to La Crosse for treatment from her home at Chippewa Falls.

Dr. Harry E. Bradly, Milwaukee, died from influenza-pneumonia at his home on April sixth. Doctor Bradley was police department surgeon, a noted alienist and a former health commissioner of Milwaukee. For more than thirty-five years, he has been an outstanding figure in the public life of Milwaukee and in the medical profession of the State.

Born in New York City on November 26, 1862, Doctor Bradley received his education in Milwaukee and, in 1882, served a year at the Northern State Hospital at Oshkosh. He graduated in medicine at the University of New York in 1887 and, in 1889, was commissioned major in the Wisconsin National Guard serving in the Spanish American War. He had served as police surgeon since 1902.

Dr. Bradley was a member of the Milwaukee County Medical society, the Wisconsin State Medical society, the American Medical association, the Milwaukee Neuro-Psychiatric society, and the Association of Military Surgeons of the United States. He was a Mason, being life member of Wisconsin lodge No. 13.

Surviving Dr. Bradley are his widow, Mrs. Nina Harlow Bradley, to whom he was married in 1890, and two children, Harlow and Gertrude. Dr. Bradley's son is now in Paris, France, representing the Allis-Chalmers company.

Dr. Eugene E. Axtell, 57, prominent roentgenologist of Marinette, died from angina pectoris at his home while asleep, March 22nd. Doctor Axtell was born in Dalton, Ill. Though hampered by ill health, he succeeded in educating himself. He graduated from Alma College, Alma, Michigan and the Chicago Homeopathic Medical College in 1890. He began the practice of medicine in Burlington, this state, where he lived ten years. Ill health compelled him to seek a larger field where he could limit his work to conform to his physical strength. He located in Marinette twenty-two years ago. He became a pioneer in the study and application of roentgenology to which he largely devoted himself since 1900.

In recognition of his devotion to the art of medicine and his untiring effort to find the truth and be of real service to his fellow man, the entire medical profession of the Twin-cities acted as escort of honor at his funeral. Doctor Axtell was twice president of the Marinette-Florence County Medical Society, a member of the Fox River Valley, the Wisconsin State, the American Roentgen Ray Societies, and the American Medical Association. He was a Knight Templar in the Masonic Lodge.

Dr. Joseph Leonard Norman Aus, 38, died at Deer Park, Wisconsin, January 7th, Doctor Aus was born at Wiota in 1884, graduating from the Illinois Medical College, Chicago, in 1904. He began the practice of medicine in Emerald, moving to Deer Park in 1907. For two years, he was president of the village and served as member of the council. Death came suddenly following a severe attack of inflammatory rheumatism. He was a member of the St. Croix, County, Wisconsin State and American Medical Associations.

Dr. Mary B. White, for many years a practicing physician at Madison, died on March 18th at her home in Palo Alto, California. She was born at Windsor, Dane County, Wisconsin.

Mrs. Gladys Miller, nee Nolte, daughter of Dr. and Mrs. Louis G. Nolte, Racine, died at her home, March 25th.

UNCOUNTED FACTORS IN INFANT FEEDING

Infant feeding, according to Clifford G. Grulee, Chicago, (*Journal A. M. A.*, Dec. 9, 1922), is essentially a therapeutic measure. It is that branch of dietetics which requires the most exhaustive knowledge of scientific facts and the most thorough observation of clinical cases, to be carried out successfully. It has shown that dietetics is essentially an individual proposition; that diets are to be prepared not for groups but for individuals. Infant feeding is far from being an exact science, and still depends, to a large extent, on the judgment of the physician in the individual case. Perhaps the most important phase of the subject is the practical psychology that enters into the situation. Change of environment, without change of food, may lead to astonishingly good results. Quite intimately associated with the psychologic factor is that of infant care. The difference between hospitalization of infants and home care is a difference in the amount of individual care given each child. In the average home, this is frequently too much. In the poorly conducted hospital, it is always too little. If the pediatric wards of a hospital are properly conducted, that is, if there are proper facilities for the care of children and a sufficient personnel properly educated and intentioned, a hospital may be a most excellent place for a sick child over many months. In fact, in Grulee's opinion, it is the only proper place to care for sick babies. With a highly trained and conscientious personnel, the hospital becomes the one place where the physician may eliminate certain accessory sources of error and apply himself more directly to the case in question in respect to its physical needs, and he may leave out of consideration entirely, or to a very great extent, many of the irritating factors that must enter into consideration in the home. Mastery of a method of feeding is highly essential to success. The value of scientific knowledge is likewise essential. Effective work in medicine is produced only by those who have as thorough a knowledge of the subject as can be obtained. It is necessary, however, in order to use this scientific knowledge that one have in his possession not only scientific facts, but also a knowledge of the indications for their use.

TECHNIC OF REPAIR OF ENTEROCELE (POSTERIOR VAGINAL HERNIA) AND RECTOCELE.

In large rectoceles, George Gray Ward, New York (*Journal A. M. A.*, Aug. 26, 1922), says the usual operative technic of Emmet or Hegar does not give a permanent satisfactory result. In these cases, a technic may be employed which insures a cure by treating the rectocele as a hernia and anchoring the rectal pouch in a higher position on the undamaged portion of the vaginal wall, where the fascial supports of the canal are intact. Posterior vaginal hernias, or "enterocele," while rare in the extreme types, are far more frequent in the lesser degrees than is usually realized. A deep culdasac of Douglas may be congenital or acquired, and is an important factor in the cause of uterine prolapse. It is frequently not recognized in many cases of prolapse of the uterus, and the failure to correct it is a common cause of unsatisfactory operative results. The technic of the obliteration of the pouch of Douglas by the vaginal or abdominal route is not difficult, and it should be a part of the procedure in operations for uterine prolapse.

INTRODUCING A NEW DRUG.

To what extent are the claims for the virtues of a new drug tinctured by commercial considerations? Even though put out as the result of investigations carried out by the scientific staff of a firm of standing, the question arises: To what extent is the scientific staff of a commercial concern influenced by the commercial atmosphere of competition and dividends in which they do their work? And even when a drug is the result of studies carried out by investigators who have no commercial connections there is the thought: To what degree has the investigator's enthusiasm tinctured his judgment? An increasing number of physicians adopt the plan of giving no consideration to new drugs until these have received the stamp of approval from the Council on Pharmacy and Chemistry and are listed among New and Nonofficial Remedies. While, as the Council cautions, acceptance of a drug for New and Nonofficial Remedies is not proof that the worth of the drug has been definitely determined, the recognition does mean that it is of definite composition and that there is sufficient evidence of its therapeutic worth to warrant its trial by physicians. What seems to be an almost ideal method of introducing a new drug has been followed in the case of "flumerin," the name given to the disodium salt of hydroxy-mercuri-fluorescein. At the 1922 session of the American Medical Association, a paper[1] on flumerin was presented to the Section on Dermatology by White, Hill, Moore and Young of Johns Hopkins. The chemical identity of the new mercurial was defined in this paper; animal experiments were reported which demonstrated its efficiency in experimental syphilis, as were also clinical trials which had been made after the animal experiments had warranted such trials. The clinical work gives promise that the new mercury salt may prove of considerable value. The investigators announce, however, that flumerin is not to be made available commercially unless independent clinical study confirms their findings. In order that syphilologists may feel warranted in including flumerin in their studies, Dr. White and his collaborators requested the Council on Pharmacy and Chemistry to examine the evidence for the perparation. The Council has published a preliminary report[2] announcing that while the drug is in the experimental stage, and although the evidence to prove that it is a worth-while addition to the long list of mercury salts used in the treatment of syphilis is still incomplete, the product is suitable for clinical trial in selected cases. Should this product become an addition to our materia medica, it will be as the result of the orderly procedure: (1) demonstration of its chemical identity and uniformity; (2) animal experiments giving promise of therapeutic value; (3) clinical trials under the auspices of the discoverers, and (4), confirmation of its therapeutic worth by independent clinical investigations.—*Jour. A. M. A.*, Sept. 30, 1922.

[1]White, E. C.; Hill, J. H.; Moore, J. E., and Young, H. H.; Flumerin—A new Mercurial for the Intravenous Treatment of Syphilis: First Report of Chemical, Animal and Clinical Experiments and Results, J. A. M. 79:877 (Sept. 9) 1922.

[2]Flumerin: Preliminary Report of the Council on Pharmacy and Chemistry, J. A. M. A. 79:897 (Sept. 9) 1922.

PROPOSED LEGISLATION REDUCING FEDERAL NARCOTIC TAX.

Through the efforts of the Bureau of Legal Medicine and Legislation of the American Medical Association, and with the cooperation of Dr. John J. Kindred, a fellow of the Association and the representative in Congress from the Second New York Congressional District, a bill has been introduced for the reduction of the tax imposed on physicians and certain related professional groups by the Revenue Act of 1918, to the merely nominal amount, one dollar a year, originally provided in the Harrison Narcotic Law.

The Harrison Narcotic Law was enacted in the discharge of international obligations the United States government had assumed, looking toward the control of the traffic in habit-forming drugs. It took the form of a tax measure, not because of any intention on the part of the government to make the traffic in such drugs a source of revenue, but because in no other way could the federal government obtain the control it had obligated itself to assume. In the execution of the project, it became necessary to obtain jurisdiction over the physician, as one of the agencies through which habit-forming drugs are distributed, and for that purpose alone a nominal tax was imposed. To this, no objection was raised; it was looked on by the profession as a step necessary in the fulfilment of an international obligation, and was accepted accordingly.

When the Revenue Act of 1918 was framed, the United States had incurred a large indebtedness on account of the World War. New sources of revenue were being sought, and taxes already established were being increased; and in the course of its search for increased income, Congress amended the Harrison Narcotic Law, and trebled the tax. Then the tax ceased to be a mere incident to the discharge of certain police duties voluntarily assumed by the federal government, and became nothing more or less than an occupation tax. There was no more reason for imposing an occupation tax on the physician than for imposing such a tax on the lawyer, the architect, and on other professional and vocational groups, except that opportunity was given through the tax already imposed. But it was a wartime measure, and the medical profession, which as a body had probably already contributed proportionately more of its resources to the country's defense than had any other group, hesitated to enter complaint.

The war has been over now for more than four years, and during that time the Revenue Act of 1918 has been revised. Still the three dollar tax is being collected, and it will be collected until Congress otherwise directs. On the face of the law, the tax is small; in the aggregate, it is not. The records of the Treasury Department do not permit a statement of the amount paid by physicians alone, but from the medical group

—comprising physicians, dentists and others engaged in the practice of the healing arts—and from hospitals, in the fiscal year 1922 there was collected $573,413.84.

The imposition of this tax on the practice of medicine cannot be justified on the ground that the revenue is necessary to pay the cost of enforcing the law. The law is for the general good, and there is no reason why the physician should defray any greater share of the cost of enforcement than is paid by others. Moreover, the taxes collected under the law are largely in excess of the amount expended for its enforcement; for the amount collected during the fiscal year 1922, from all sources, was, according to the annual report of the Commissioner of Internal Revenue, $1,269,039.90; and the cost of enforcing the act was but $658,728.77. Even if a liberal allowance is made for overhead and incidental expenses of enforcement, not included in the cost as officially stated, it seems safe to say that the United States, during the fiscal year 1922, under the Harrison Narcotic Law alone and to the exclusion of all receipts from customs revenues on narcotic drugs, realized a half million dollars net profit.

On no sound, discoverable basis can the present tax of three dollars a year on physicians, under the amended Harrison Narcotic Law, be justified. To the extent that the tax is in excess of the minimum necessary to give the federal government jurisdiction over the physician as an agency engaged in the distribution of habit-forming drugs, it is an occupation tax, unjustly discriminating against the medical profession and the allied groups subjected to its exactions. It is for the physicians of the country to see that the tax is discontinued, or at least reduced to the amount named in the original law, one dollar a year: if not by this Congress, then by the next.—*Jour. A. M. A.*, Feb. 17, 1923.

DIPHTHERIA PREVENTION AMONG CHILDREN OF PRESCHOOL AGE.

The campaign of last summer, reported by ABRAHAM ZINGHER, New York (*Journal A. M. A.*, Feb. 17, 1923), to reach the children of preschool age was a logical sequence to the extensive work that was carried out in the public schools of New York City. More than 800,000 homes had been reached with the literature on diphtheria prevention. In the boroughs of Manhattan and the Bronx alone, about 150,000 schoolchildren were given the Schick test, and those showing a positive reaction received the injections of toxin-antitoxin. An almost equal number were tested in Brooklyn and Queens. Repeated newpaper publicity had also been of some value. In most of the homes in which there were children, the parents knew what modern diphtheria prevention meant. Many of them asked us where they could take their younger children to have them immunized against diphtheria. The work among children of preschool age, including those between 6 monthhs and 6 years of age, was started July 1, and carried out during the months of July and August and the first two weeks of September. In Manhattan and the Bronx, the injections were given in all the baby health stations of the department of health, in five similar stations of the New York Diet Kitchen Association, and in many of the mothers and babies' playgrounds located during the summer in the play yards of the public schools. This campaign led to the following conclusions: (1) The active immunization with toxin-antitoxin of all children of preschool age (from 6 months to 6 years) is of fundamental importance in any general campaign of diphtheria prevention and control. (2) To reach these young children, the health officer can utilize, in larger cities, the baby health stations, day nurseries, mothers and babies' playgrounds, infant asylums, clinics for children, and similar agencies. (3) It is of even greater importance to have private physicians take up this work among the young children in their private practice. (4) Preliminary work in the schools will help by spreading in the homes the knowledge of these newer methods of diphtheria prevention. (5) The high percentage of positive Schick reactions among children of preschool age indicates, under many conditions, the advisability of simplifying the procedure of immunization by omitting the preliminary Schick test in this group and giving the toxin-antitoxin injections to all children between 6 months and 6 years of age. These children should not be pronounced immune to diphtheria after the injections of toxin-antitoxin until they show a negative Schick reaction. This test might be carried out conveniently by the school physician when the children begin to go to school. (6) The injections of toxin-antitoxin produce very little local or constitutional disturbance in young children.

TRAINING IN SOCIOLOGY AND PUBLIC HEALTH AN ESSENTIAL IN MEDICAL EDUCATION.

S. W. Welch, Montgomery, Ala. (*Journal A. M. A.*, July 29, 1922): suggests five essentials which should be made a part of a student's medical education: (1) He needs to have a sympathetic understanding of the fundamental human problems in relation to the many complexities of modern life, and must become familiar with the trend of the best thinking along social lines. (2) He needs to know the place and function of sanitation in relation to the public welfare, the how and when and why of environmental influence on health. (3) He needs to be well grounded in the control of the communicable diseases and in bacteriology. (4) It is imperative that he should have a knowledge of hygiene, especially in its relation to the social and medical sciences which attempt to improve the race by approximating a solution of the basic problems of human existence; that is, the problems associated with the necessity for food, shelter, defense and propagation. (5) He needs to have a knowledge of psychology in its relation to conduct, with regard both to individuals and to groups, in order that he may truly educate both individuals and groups in right habits of action, by supplying motives which appeal to them.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

Textbook of Pediatrics. Edited by Prof. E. Feer. Translated and edited by Julius Parker Sedgwick, B. S., M. D., and Carl Ahrendt Scherer, M. C., F. A. O. P. J. P. Lippincott & Co., Philadelphia.

Feeding Diet and the General Care of Children. By Albert J. Bell, A. B., M. D. F. A. Davis Co., Philadelphia.

Enlargement of the Prostate. By John B. Deaver, M. D. Second edition. 142 illustrations. P. Blakiston's Son & Co., Philadelphia. 1923.

Hypnotism and Suggestion. By Louis Satow. Dodd, Meade & Co., New York. 1923. Price, $3.00.

Overweight. By Royal S. Copeland, M. D. The Cosmopolitan Book Corporation, New York. 1922. Price, $1.00.

Spectacles and Eyeglasses. By R. J. Phillips, M. D. P. Blakiston's Son & Co., Philadelphia. Fifth edition. 61 illustrations.

A History of Magic and Experimental Science. By Lynn Thorndike. 2 volumes. The Macmillan Co., New York. 1923. Price, $10.00.

Outwitting Our Nerves. By Josephine A. Jackson, M. D., and Helen M. Salisbury. The Century Co., New York. 1922.

Your Hidden Powers. By James Oppenheim. Alfred A. Knopf, New York. 1923. Price $2.00.

Montaigne and Medicine. By James Spottiswoode Taylor. Paul B. Hoeber, New York. 1923. Price $3.75.

The New Psychology and the Teacher. By H. Crighton Miller. Thos. Seltzer, New York. 1922. Price $1.60.

American Nerves and the Secret of Suggestion. By Anne Sturges Duryea. The Century Co., New York. 1923. Price $1.75.

The History of Human Marriage. By Prof. Edw. Westermarck, Ph.D., LL.D. 3 volumes. Fifth edition, rewritten. The Allerton Book Co., New York. 1922.

Lincoln—An Account of His Personal Life. By Nathaniel W. Stephenson. The Bobbs-Merril Co., Indianapolis. 1923. Price $3.00.

The Maturity of James Whitcomb Riley. By Marcus Dickey. The Bobbs-Merril Co., Indianapolis. 1923. Price $4.00.

The Indiscretions of Lady Susan. By Lady Susan Townley. D. Appleton & Co., New York. 1922. Price $5.00.

The Letters of Franklin K. Lane. Edited by Anne Wintermute Lane. Houghton, Mifflin Co., Boston. 1922. Price $5.00.

The Life and Letters of Walter H. Page. By Burton J. Hendrick. In 2 volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

Woodrow Wilson and the World Settlement. By Ray Stannard Baker. In 2 volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

Fantasia of the Unconscious. By D. H. Lawrence. Thomas Seltzer, New York. 1922. Price $2.25.

Women in Love. By D. H. Lawrence. Thomas Seltzer, New York. 1922. Price $2.50.

The Convalescents. By Charles F. Nirdlinger. The Century Co., New York. 1923. Price $1.75.

In the Wake of the Buccaneers. By A. Hyatt Verrill. The Century Co., New York. 1923. Price $4.00.

Diseases of the Nervous System. By Smith Ely Jelliffe, M. D., and Wm. A. White, M. D. 4th edition. Lea & Febiger, Philadelphia. 1923. Price, $9.50.

Lawson Tait—His Life and Work. By W. J. Stewart McKay. Wm. Wood & Co., New York. Illustrated 1922.

Impotency, Sterility and Artificial Impregnation. By Frank P. Davis, M. D. 2nd edition. C. V. Mosby Co., St. Louis. 1923. Price, $2.25.

Clinical Laboratory Methods. By Russell Laudram Haden, M. D. 69 illustrations; 5 color plates. C. V. Mosby Co., St. Louis. 1923. Price, $3.75

A Study of American Intelligence. By Carl C. Brigham, Ph.D. Princeton University Press, Princeton, N. J. 1923. Price, $3.50.

Functional Nervous Disorders—Their Classification and Treatment. By Donald E. Core, M. D., Manchester, England. Wm. Wood & Co., New York. 1922.

Character Revelations of Mind and Body. By Gerald Elton Fosbroke. G. P. Putnam's Sons, New York. 1922.

Insanity and the Criminal Law. By Wm. A. White, M. D. The Macmillan Co., New York. 1923. Price, $2.50.

Sex and Dreams. By Wm. Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

The Homosexual Neurosis. By Wm. Stekel, M. D., Vienna. Richard G. Badger—The Gorham Press, Boston. 1922. Price, $6.00.

Mental Causes of Accidents. By Boyd Fisher. The Houghton Mifflin Co., Boston. 1922. Price, $2.50.

The History of Medicine. By Walter Libby, M. A., Ph.D. Houghton Mifflin Co., Boston. Illustrated. 1922. Price, $3.00.

Judging Human Character. By H. L. Hollingworth. D. Appleton & Co., New York. 268 pp. 1923.

Your Inner Self. By Louis E. Bisch, M. D. Doubleday, Page & Co., Garden City, N. J. 190 pp. 1922.

Textbook of Anatomy and Physiology for Training Schools and Educational Institutions. By Elizabeth R. Bundy, M. D. P. Blakiston's Son & Co., Philadelphia. 1923. Price, $2.50.

Biology of Sex. By T. W. Galloway, Ph.D. Revised. D. C. Heath & Co., Boston. 150 pp. 1923.

Greek Biology and Medicine. By Henry Asborn Taylor. Marshall Jones Co., Boston. 150 pp. 1923.

History of the Psychopathic Hospital, Boston. By L. Vernon Briggs and Collaborators. L. Vernon Briggs, M. D., 64 Beacon St., Boston, Publisher.

The Physiology of Reproduction. By F. H. A. Marshall, D. Sc. Illustrated. 2nd edition. 770 pp. Longmans, Green & Co., New York. 1922. Price, $12.00.

BOOK REVIEWS

Text Book of Pediatrics. Edited by Prof. E. Feer. Translated and edited by Julius Parker Sedgwick, B. S., M. D., and Carl Ahrendt Scherer, M. D., F. A. C. P. J. P. Lippincott & Company, Philadelphia.

This work represents the first English translation. It is a compilation by a number of the most prominent European Pediatricians: Feer, Finklestein, Ibraham, Meyer, Moro, Noeggerath, Thiemich, v. Pfaundler and v. Pirquet. The American collaborators and editors number seventeen. The work is extensive and covers the field of pediatrics very completely.

This volume follows the original closely with an addition of extensive editorial notes which have been incorporated with, or even after the original translated text in an endeavor to bring the subject matter up-to-date. One notices discrepancies as the same are contradictory in many instances. For reference work this volume fills a niche.

Feeding Diet and the General Care of Children. By Albert J. Bell, A. B., M. D. F. A. Davis Company, Philadelphia, Pa.

A small educational volume adapted for instruction and information of Mothers and Nurses: The subject matter is well arranged and the information contained is clearly and succinctly presented. Breast feeding problems are well emphasized and extensively covered. Much of value is contained in the text matter relative to foods and their value.

Diet lists included for the first twelve years of life specify varieties and definite amounts for age, weight and height with particular reference to the teeth. The work is replete with many practical suggestions.

Enlargement of the Prostate. By John B. Deaver, M. D. Second edition. 142 illustrations. P. Blakiston's Son & Co., Philadelphia. 1923.

Doctor Deaver's first edition was most enthusiastically received by the profession as a comprehensive work fully representative of the subject. It has been and is an essentially practical work which has omitted in large part theoretical considerations. In his new edition, the chapter on diagnosis has been fully revised and a section on the use of the cystoscope in prostatic hypertrophy has been added. The section on embryology has been rewritten.

In the present edition, the subject of prognosis is discussed at considerable length and special stress is laid on the importance of painstaking preoperative treatment. The two-stage operation of supra-pubic prostatectomy is fully described. About forty illustrations have been added. This is a work which should find a place in every surgeon's library and should interest the general practitioner as well.

Hypnotism and Suggestion. By Louis Satow. Dodd, Meade & Co., New York. 1923. Price, $3.00.

Too often, we fear, even the physician's ideas of hypnotism have been gained from the theater, the public press or the popular writings of journalists or novelists. The subject, together with that of suggestion, is a very important one to the medical man and this volume should fill a long felt want.

The recent public interest in our friend Coué attests the aroused public interest in the subject and a new work such as Satow's should find an interested public and profession awaiting it.

Overweight. By Royal S. Copeland, M. D. The Cosmopolitan Book Corporation, New York. 1922. Price, $1.00.

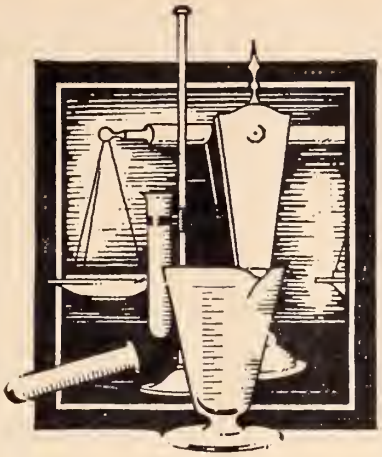
Dr. Copeland, formerly commissioner of health for New York City, and now U. S. Senator, needs no introduction to the medical profession. He has given us here a serviceable little work of 122 pages on overweight and how to correct it—just the kind of a book the busy practitioner will want to hand to the patient consulting him or in need of advice on the subject. You can use several of these to good advantage.

Spectacles and Eyeglasses. By R. J. Phillips, M. D. P. Blakiston's Son & Co., Philadelphia. 5th edition. 61 illustrations.

This little work, which has reached a fifth edition, is the outgrowth of the instruction on the subject of prescribing spectacle frames given at the Philadelphia Polyclinic. It has received and maintained a well deserved popularity. It has been revised and brought up to date.

A History of Magic and Experimental Science. By Lynn Thorndike. In two volumes. The Macmillan Co., New York. 1923. Price, $10.00.

Here is indeed a wonderful study of the subject covering the first thirteen centuries of our era. By the term "magic" Professor Thorndike means the arts of divination and various occult sciences as well as the magic arts in the more restricted sense. We are given in these two volumes of seventeen hundred pages a detailed historical study of magic and science in the late classical, early Christian and mediaeval periods. The work covers the origins of experimental science, its historic relations with magic and religion, its status in the middle ages on the history of medicine, and the biography and bibliography of mediaeval scientists. Its various sections cover as follows: Book One—The Ro-



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man Empire; Book Two—The Early Christian Thought; Book Three—The Early Middle Ages, and Books Five to Seven—The Twelfth and Thirteenth Centuries.

We are indeed indebted to Professor Thorndike for his painstaking labor and research into a field so intensely interesting to a medical man. It represents more than twenty years' work on his part and will stand out for all time as an achievement in historical and scientific research. It is a work, doctor, which you should purchase now for it will yield rich returns in furnishing an evening's interesting reading and grow in your favor from year to year.

Outwitting Our Nerves. By Josephine A. Jackson, M. D., and Helen M. Salisbury. The Century Co., New York. 1922.

The reviewer's curiosity regarding this little work for popular reading was aroused by several patients quoting it to him and telling of the benefit gained by reading it. It has not been disappointing and lives up to the lay appraisal. No wonder it helped, for it is full of good sense and practical help for the "nervous" patient. Don't turn them away with the advice that "There is nothing wrong—you are merely nervous." There is something wrong and that patient's needs as definite and scientific as a prescription or surgical procedure. This little book will help the physician to help the patient. Don't be afraid to loan it out.

Your Hidden Powers. By James Oppenheim. Alfred A. Knopf, New York. 1923. Price, $2.00.

This is a book on psychoanalysis simple enough so that anyone can understand it. It tells people about themselves, how they should live and how to make the most of themselves. It contains a glossary of psychoanalytical terms and is a layman's work by a layman, well written.

Montaigne and Medicine. By James Spottiswoode Taylor. Paul B. Hoeber, New York. 1923. Price, $3.75.

No philosopher of the past makes as strong an appeal to the physician as does Montaigne and this gives his comments on contemporary physic and physicians, his thoughts on many material matters relating to life and death; an account of his bodily ailments and peculiarities and of his travels in search of health. It is well illustrated and bound and a most interesting work to the physician.

The New Psychology and the Teacher. By H. Crighton Miller. Thos. Seltzer, New York. 1922. Price, $1.60.

The author discusses education from the standpoint of analytical psychology as it concerns teachers and parents undertaking the training of children. The work is intended as an introduction to the subject and is based on a course of lectures under the auspices of the Tavistock Clinic for functional nerve cases. It is a work which the physician, the teacher and the parent will find interesting, stimulating and "different."

American Nerves and the Secret of Suggestion. By Anne Sturges Duryea. The Century Co., New York. 1923. Price, $1.75.

This was written, the author states, "in behalf of nervous people who may find it useful in securing a better understanding of their condition and their needs for themselves as well as their families and friends." The book considers the tremendous value of suggestion in the treatment of nervous disorders. It is well written and is capable of much good. It should be a member of the physician's "pass about" family of books.

The History of Human Marriage. By Prof. Edw. Westermarck, Ph.D., LL.D. In three volumes. Fifth edition, rewritten. The Allerton Book Co., New York. 1922.

Professor Westermarck's monumental work, first published in 1891 as a small volume of 200 pages, is now offered in its final form, practically a new work comprising over 1,800 pages. It has been entirely rewritten and various aspects of marriage previously dealt with inadequately have been discussed at length. Old theories have been strengthened or modified and new theories set forth by other authors scrutinized.

The origin and development of human marriage has been discussed by such eminent scientists as Darwin, Spence, Morgan and others. Professor Westermarck does not hesitate to challenge certain theories of these writers and independent thinkers will, we believe, agree with the newcomer, for he is a careful thinker, an acute reasoner and a painstaking investigator. His arguments and conclusions are well founded.

The JOURNAL most enthusiastically endorses this work. It might be termed an anthropological drama for it is the story of human love and marriage going back to the most primitive peoples. Its clearness of style, its wonderful English and its never failing interest holds the reader's interest unfailingly. It is worthy a place in the library of any man interested in the human race.

IN LIGHTER VEIN

Lincoln—An Account of His Personal Life. By Nathaniel W. Stephenson. The Bobbs-Merril Co., Indianapolis. 1923. Price, $3.00.

Here, indeed, is a Lincoln biography which is more than an account of his life—it is a "movie" of the man—pictured so intimately that the reader knows him and lives with him. The author's insight, sureness of touch and sympathetic understanding of the man impresses the reader from the very beginning and the tale runs on with an ever increasing and fascinating interest. We have seen more pretentious works but none that gives us the understanding of the great President.

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The Maturity of James Whitcomb Riley. By. Marcus Dickey. The Bobbs-Merrill Co., Indianapolis. 1923. Price, $4.00.

This delightful story of Riley follows the poet through his picturesque career and chronicles his first adventures in the limelight as a public reader, his failure, his first successes and his ultimate triumph. It is an intimate story of his life, his associates, his work as it was published and his burial honors and glory as America's most loved poet. Mr. Dickey writes of Riley as no other can. Here is a volume that will win a place in your heart.

The Indiscretions of Lady Susan. By Lady Susan Townley. D. Appleton & Co., New York. 1922. Price, $5.00.

These are the personal recollections of a diplomat's wife—one who has had exceptional opportunity to know important and interesting people the world over, from Washington to Pekin. It is a tale of her recollections during the past quarter century and covers three continents. She evidences an unusual power of observation, a keen sense of humor and a genuine gift of writing vividly and entertainingly. It gives us an intimate glimpse of the diplomatic service, the courts of Europe, Washington, South America and the Far East. We are introduced to the most prominent men of the age and made to feel that we know them. It is beautifully bound.

The Letters of Franklin K. Lane. Edited by Anne Wintermute Lane. Houghton, Mifflin Co., Boston. 1922. Price, $5.00.

Here is the inside story of the Cabinet during the World War—a record unapproached for frankness and vividness. It is written by one of our greatest statesmen of eminent position and gives an inside story of the happenings of the time with which every American should be familiar. It is not only an invaluable contribution to American history but it is as well a masterpiece of fine literature, for its author was a born writer capable of unusual expression in English.

Among Mr. Lane's correspondents were Roosevelt, Abbott, Root, Wilson, Page, Bryan and Lansing, but his more intimate letters to his family and friends in the byways of life are often even more interesting. It is a book "much talked about" and will be for years—readers of good literature cannot afford to miss it. The publishers have, too, done their part in presenting it in exceptional style.

The Life and Letters of Walter H. Page. By Burton J. Hendrick. In two volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

This is the life story of America's ambassador to London during the most critical period of the world's history—the man of whom Roosevelt wrote, "The ambassador who has represented America in London as no other ambassador has ever represented us with the exception of Charles Francis Adams during the Civil War."

It is an "inside" story again and holds one's interest unfailingly from the very beginning to the end, for it is not a merely clever chronicle of the times but it is the man himself—breathing—living—we are a part of his life and share his most intimate thoughts and information. The reader lives the times in the tense dramatic atmosphere of the embassy in London. We meet the great men of the era, we read the personal letters our ambassador has written to them, and we experience the feelings of one who lives a part in the drama of the ages. Mr. Hendrick writes wonderfully well and his work will live as one of the classics. The bookwork of the publishers is unusually good and the set will be a permanent delight in any man's library.

Woodrow Wilson and the World Settlement. By Ray Stannard Baker. In two volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

This account of the war President and the Peace Conference was written from his unpublished and personal material by one of America's most gifted authors. Mr. Wilson has written his congratulations on the work and said, "It contains the truth and the truth will prevail." It is a record of the Peace Conference of Paris, 1919, written from the original and fundamental documents. It is unquestionably the most important account of the Peace Conference and the least distorted. It sets forth the struggle of Wilson and his advisors to apply his policies to the problems of a war-torn world. However one may consider the Paris conference, an honest judgment of it cannot be attained from press reports read at the time and nowhere else can one obtain the important information necessary to the formation of an opinion.

The author has unquestionably made an honest effort to make clear the issues and to bring out the weaknesses of the American policy as well as the strength and sound leadership. Our readers will not all agree with Mr. Baker but they will respect his opinion. This is a work every American should read and we cannot praise it too highly. The American people are indebted to Mr. Baker for this record of the conference. The publishers have measured up to the standard of the "Life and Letters of Page."

Fantasia of the Unconscious. By D. H. Lawrence. Thomas Seltzer, New York. 1922. Price, $2.25.

The present book is a continuation from the author's "Psychoanalysis and the Unconscious." The author states in his preface, "The generality of readers and critics better just leave it alone." It is a discussion in essay form of the human problems of today and the author has some very original views. It will arouse heated discussion. You may not agree with him but you will be interested.

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Women in Love. By D. H. Lawrence. Thomas Seltzer, New York. 1922. Price, $2.50.

This is a novel by the author mentioned above which has reached its fourth printing in the course of a year. It is a strong story which goes deep into the profoundest experiences of life.

The Convalescents. By Charles F. Nirdlinger. The Century Co., New York. 1923. Price, $1.75.

Here is a most delightful little "Hospital Story" of a day nurse and a supposed "hopeless case." You doctors, wives and nurses will keenly enjoy it. In addition to the love story, there is a running commentary on all that goes on in a hospital that will surely "tickle" you. Prescribe it for yourself some stormy evening.

In the Wake of the Buccaneers. By A. Hyatt Verrill. The Century Co., New York. 1923. Price, $4.00.

Who as a boy has not dreamed of the Buccaneers? Who in fancy has not sailed these southern seas in fear and trembling? This is the record of a modern cruise by the author in a pirate craft about the Caribbean Sea, visiting the old haunts of the buccaneers. It is travel, romance, adventure and history combined. It is delightful, entertaining, instructive and thrilling. If you are a "pirate fan" and most he-men are—you will want this work and you will think too much of it to loan it even to your bootlegger. It is illustrated by the author with drawings, photographs and reproductions of rare old engravings.

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2. PHYSICIANS IN CONGRESS.

Of the 531 members of both houses of Congress, only 8 are medical graduates. The great majority of the legislators are lawyers and two of the above eight physicians are likewise members of the bar. Since sanitarians may be interested to know who are the medical men in Congress we include the following alphabetical list and description. The information is taken from the Congressional Directory.

A. Senators.

Lewis Heisler Ball, Republican of Delaware. M. D. from University of Pennsylvania, 1885. Term expires 1924.

Joseph Irwin France, Republican of Maryland. M. D. from College of Physicians and Surgeons, Baltimore. Fellow of the American Medical Association. Term expires 1923.

Selden Palmer Spencer, Republican of Missouri, is a lawyer, but has an honorary M. D. from Missouri Medical College, where he lectured on medical jurisprudence. Term expires 1926.

B. Representatives.

John Joseph Kindred, Democrat of New York. Studied medicine at University of Virginia and Hospital College of Medicine, Louisville, Ky., receiving M. D. from latter. Postgraduate medical studies at University of New York and University of Edinburgh, graduating in department of mental diseases from latter. Also has LL.B.

Caleb R. Layton, Republican of Delaware. M. D. from University of Pennsylvania, 1876.

Ladislas Lazaro, Democrat of Louisiana. St. Isadore's College, New Orleans. Graduated in medicine, 1894, followed that profession until 1913.

Archibald E. Olpp, Republican of New Jersey. Graduate in chemistry from Lehigh; in medicine from University of Pennsylvania, 1908. Practicing physician.

John William Summers, Republican of Washington. Graduate Kentucky School of Medicine and Louisville Medical College; post graduate medical studies in New York, London, Berlin, and the University of Vienna. Engaged in practice of medicine for 25 years.

Lester D. Volk, Republican of New York. M. D. from Long Island Medical College. For many years editor of the Medical Economist. Practiced medicine 1906-1914; is also a lawyer and since 1913 has practiced law.

In addition to the above many be mentioned Representatives Roy O. Woodruff of Michigan, who is a doctor of dental surgery of the Detroit College of Medicine; George W. Edmonds of Pennsylvania, graduate of the Philadelphia College of Pharmacy; and R. S. Maloney of Massachusetts, who was formerly alderman and director of public health of Lawrence, Mass.

A PECULIAR DISCOLORATION OF THE SKIN.

Two cases of discoloration of the skin resulting from the use of mercurial cosmetics are reported by William H. Goeckermann, Rochester, Minn. (*Journal A. M. A.*, Aug. 19, 1922). One woman complained chiefly of discoloration of the face and of insomnia. The skin of the eyelids, nasolabial folds and chin and the folds of the skin of the neck were a brownish-gray or slate color. Inspection with a 10-diameter lens showed that the discoloration of the affected areas was due to minute black puncta in the stomata of the individual glands and in the follicle mouths of the skin. General examination of the patient, including studies of basal metabolism and endocrine function, revealed nothing of note. The patient had with her a jar of her favorite face cream, a widely known preparation, which she had used for fifteen years. It was analyzed and was found to contain large amounts of bismuth and mercury. The second patient presented virtually the same type of discoloration of the face and neck, only the pigmentation was less pronounced. This patient's face cream was of a different brand from that used by the patient in Case 1. It contained mercury, probably in the form of mild mercurous chlorid. Goeckermann points out that the pigmentation is probably dependent on some peculiar personal characteristic of the skin secretion. His experiments suggest that a mild alkalinity of the secretion may be the deciding factor. Potassium cyanid in from 0.5 to 1 per cent aqueous solution is probably the best solvent for the pigment deposit.

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ORIGINAL ARTICLES.

GASTRIC PAPILLARY CARCINOMA.

BY FRANCIS B. McMAHON, B. S., M. D., M. S., F. A. C. S.,

MILWAUKEE.

Ewing (1) defines "papilloma" as a general term applied to local outgrowths of tissue from cutaneous, mucous and serous surfaces. This papillary structure when observed in tumors of glandular origin which pursue the courses of adenoma or of carcinoma of these organs are designated as papillary adenoma and papillary carcinoma respectively. He states that the clinical course of papilloma is usually benign with the exceptions of papilloma of the larynx, the bladder and the tongue. He further states that induration and fixation of the base of a papilloma, increasing growth, and ulceration are early signs of malignancy.

The following case report with the operative findings of the pathology revealed on both gross and microscopic examinations is very interesting and instructive.

Case History: First examination December 26, 1919. Female; Age 57; Married—nine children living and well; Previous history, negative. Her complaints consisted of loss of 30 lbs. of weight and of much strength, and poor appetite which had been gradual in onset and progressive for a period of six months. She had become pale and sallow. There were no abdominal pains and aches and no vomiting. She had dieted considerably during this time, and for the past two months had a sore tongue. The balance of the history was negative except for an old chronic healed varicose ulcer on the innner aspect of the right leg of 20 years duration. Physical examination showed a moderate degree of pallor, no jaundice, a mitral regurgitation, well compensated; a palpable rounded firm epigastric tumor, freely movable, the size of an orange and not tender; the liver and the spleen were negative; no ascites; vaginal and rectal examinations negative.

Laboratory Findings: Urinalysis negative; Blood—Hmgb. 40%; R. B. C. 2,840,000; W. B. C. 7,200; Differential count negative.

Roentgenology: Fluroscopic examination of the stomach showed a number 2 retention of the barium-carbohydrate six hour-motor-meal with a large filling defect in the first portion of the pylorus corresponding to a palpable movable mass. Roentgenographic study confirmed these findings, the margins of the filling defect resembling that of a cauliflower, into the crevices and recesses of which there were multiple streaks of barium shadows. The tumor took its origin from the greater curvature, at which point there was a permanent inverted V-shaped indentation. Tumor operable from the roentgenological evidence. (Fig. 1).

Diagnosis: Tumor of the pylorus with obstruction; Benign? Mitral regurgitation, compensated; marked degree of secondary anaemia.

Operation: Operation was performed for the most part under local anesthesia on January 8, 1920. The distal 2/5 of the stomach was resected for a tumor the size of a large orange, taking its origin on the greater curvature about two inches below the proximal line of resection, followed by an anterior gastro-jejunostomy of the Polya-Balfour type. There was apparently no involvement of the serosa, but there was some induration of the stomach wall at the site of the tumor. One small gland excised from the gastro-colic omentum opposite the origin of the tumor showed chronic lymphadenitis. Negative exploration of the adjacent organs. Payr's clamps were used. Sutures of continuous and interrupted catgut and re-inforcement sutures of silk were used for the anastamosis. One-half of one per cent novocain was used as the local anaesthetic. Morphine Gr. 1/6 and atrophine Gr. 1/150 were administered hypodermically ½ hour before the operation. The patient was given a few drops of ether before delivering up the first portion of the jejunum and ether anaesthesia was employed in the closure of the abdominal incision.

Pathological Findings: Large gastric papilloma with several short pedicles taking origin from the greater curvature about three inches from the

pyloric outlet. (Fig. 2). Microscopic examination showed a papillary carcinoma in the base of a papilloma of gastric origin. (Fig. 3). The lymph glands showed chronic inflammation.

Follow-up Record: Her post-operative convalescence was uneventful. Liquids were administered per bowel at the outset and continued for 48 hours at intervals. She was allowed liquids per mouth 12 hours after operation. Her diet was gradually increased, using small and frequent feedings for the first two weeks. She was propped up in bed from the outset and urged to sit up in a chair regularly on and after the sixth day to prevent hypostatic congestion of the lungs and the kidneys. Her wound healed by primary intention. Re-examination of this patient thirty-four months after operation showed normal motility of the barium-carbohydrate motor-meal; no retention; the gastro-jejunostomy stoma and the remaining portion of the stomach wall smooth and pliable. (Fig. 4). X-ray examination of the chest was negative. Blood count Nov. 21, 1922, 82% Hmgb; 5,500,000 R. B. C.; 8,000 W. B. C.; normal differential count. Her heart was fully compensated. Her general and local conditions were

Fig. 1. Large filling defect in the pylorus, corresponding to a palpable mass. Indentation of greater curvature at site of tumor origin.

good. The liver was negative. Her weight was 130 pounds. There were no subjective symptoms except a slight sense of fullness in the epigastrium after partaking of large quantities of food. Her appetite was good. The soreness in her tongue disappeared two months after operation. On March 21, 1923, thirty-eight months after operation, her local and general conditions are satisfactory.

Discussion: Very few cases of papilloma of the stomach have been reported even including autopsy reports. In 1915 Bosch (2) reviewed the literature on Primary Benign growths of the stomach and reported three cases; one, a papillary adenoma the size of a walnut attached to the lesser curvature near the pylorus, which was successfully removed. This patient also had a gall bladder filled with stones which apparently was the cause of the original complaint. He reports a second case with roentgen findings but of doubtful histological structure where a pedunculated intrinsic tumor 2½ inches in diameter was found at exploration, but not removed on account of surgical complications encountered during the operation. The third case was one with roentgen findings where two small pedunculated gastric papillo-adenomata were

Fig. 2. Papilloma of the Stomach.

successfully removed by Roth with a paquelin cautery.

Campbell (3) in an article on Benign Tumors of the Stomach reports a case that is pathologically analogous to the one here reported. In this case Northrupp made a probable diagnosis of papilloma of the stomach on the clinical history, negative local physical findings, and a small quantity of

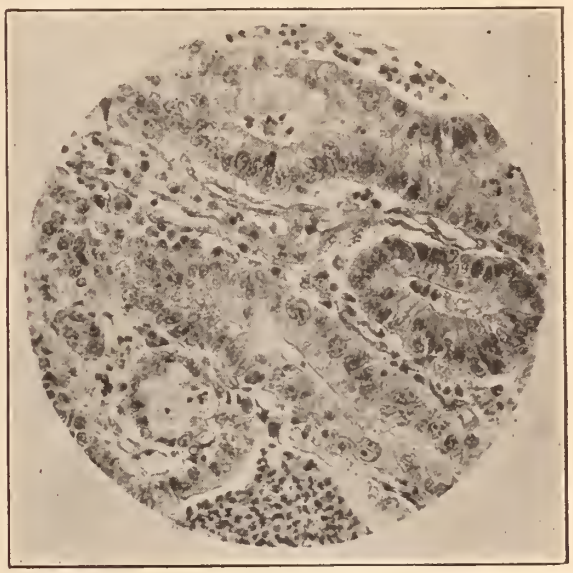


Fig. 3. Photomicrograph Gastric papillary adeno-carcinoma. Section taken from base of tumor. High power magnification.

blood in the stool and in the stomach contents. There were no roentgen findings reported. A pedunculated tumor the size of a pigeon's egg was successfully removed from the greater curvature and the stump cauterized. Campbell concluded that the tumor was benign, although Whartin examined the specimen microscopically and called it a papilloma on an adenocarcinomatous base. Deaver and Ashurst (4) have collected 19 case reports of adenomata and of papillomata of the stomach with operative findings.

As regards the operative procedures in this case two types of operation were considered; namely, a sleeve resection or a pylorectomy followed by a Polya-Balfour gastro-jejunstomy. The latter was chosen as the more favorable one on account of the position of the lesion and the lower mortality in this type of operation and the good function after operation. V-shaped excision of a segment of the greater or the lesser curvature without a simultaneous gastro-jejunostomy does not always give as high a percentage of good gastric motility and function subsequently as one would wish for. Gastrostomy and excision of a tumor of this size was not indicated.

Cases like this with a marked anaemia from

cachexia or from bleeding may require one or more transfusions before operation, thereafter employing local or combined anaesthesia in the operative work. In preparation for operation therapeutic doses of medicines and diet to improve the blood content are too slow acting if not wholly disappointing.

1. Ewing—Neoplastic Diseases, 1919, pg. 430-431.

2. Bosch—Primary Benign Growths of The Stomach, S. G. & O., 1916, Vol. 22 pg. 165.

Fig. 4. X-Ray Nov. 21, 1922—Gastro-jejunostomy thirty-four months after resection. Rapid clearance of barium from the stomach. Gastric capacity about twice as much as illustration would indicate.

3. Campbell—Benign Tumors of The Stomach, S. G. & O., 1915, Vol. 20, pg. 66.

4. Deaver & Ashurst—Surgery of The Upper Abdomen, Second Edition, 1921, pg. 209.

THE PRESENT STATUS OF INFANT FEEDING WITH THE BUTTER-FLOUR MIXTURE OF CZERNY-KLEINSCHMIDT.*

BY A. B. SCHWARTZ, M. D.,

ATTENDING PHYSICIAN, MILWAUKEE INFANTS' HOSPITAL,

MILWAUKEE.

It is a well known fact that infants do not digest the fat of cow's milk as well as they do that of mother's milk. While the new-born infant readily utilizes mother's milk containing 5% fat, an equivalent proportion of fat in an artificial feeding would be likely to produce a digestive upset. Pediatricians have long appreciated this difficulty, and have devised numerous ways for obviating it. Occasional attempts have been made to arrange food mixtures comparable, as far as chemical composition was concerned, to breast milk. This so-called "humanization" process usually involved intricate combinations of one sort or another based upon theoretical considerations which were subsequently proved erroneous. Among such preparations as have fallen into disuse are the well known Gärtner's milk, the whey milk of Monti and the peptonized milk of Voltmer Lahrman. Of more recent attempts of the same sort, the whey-modified milk of Schloss enjoyed a brief popularity.

Much more successful in application have been those milk mixtures prepared with low fat content, compensating for the deficiency of fat by an increased proportion of carbohydrate. These preparations may be roughly classified into two groups —those comprising milk mixtures with high protein content, such as the use of lactic acid or albumin milk with a high carbohydrate percentage, or the much more popular concentrated infant food mixtures of varying percentages of soluble and insoluble carbohydrates. The latter group of feedings are best represented by the advertised brands of infant foods—all of which enjoy a certain popular favor. This prevalent popularity maintains itself by a false conception of the essential value of an infant's food. We have long been aware that a mere weight gain does not constitute the sole criterion of the successful infant's food. We know too well the fragile nature of weight gains conferred by condensed but physiologically inadequate foods. Who has not witnessed the tumbling weight of such an infant, once infection gains a foothold? A baby may appear fat and yet be nutritionally insolvent. In infant institutions it is strikingly noticeable what poor risks such babies are, and how vulnerable to cross infections.

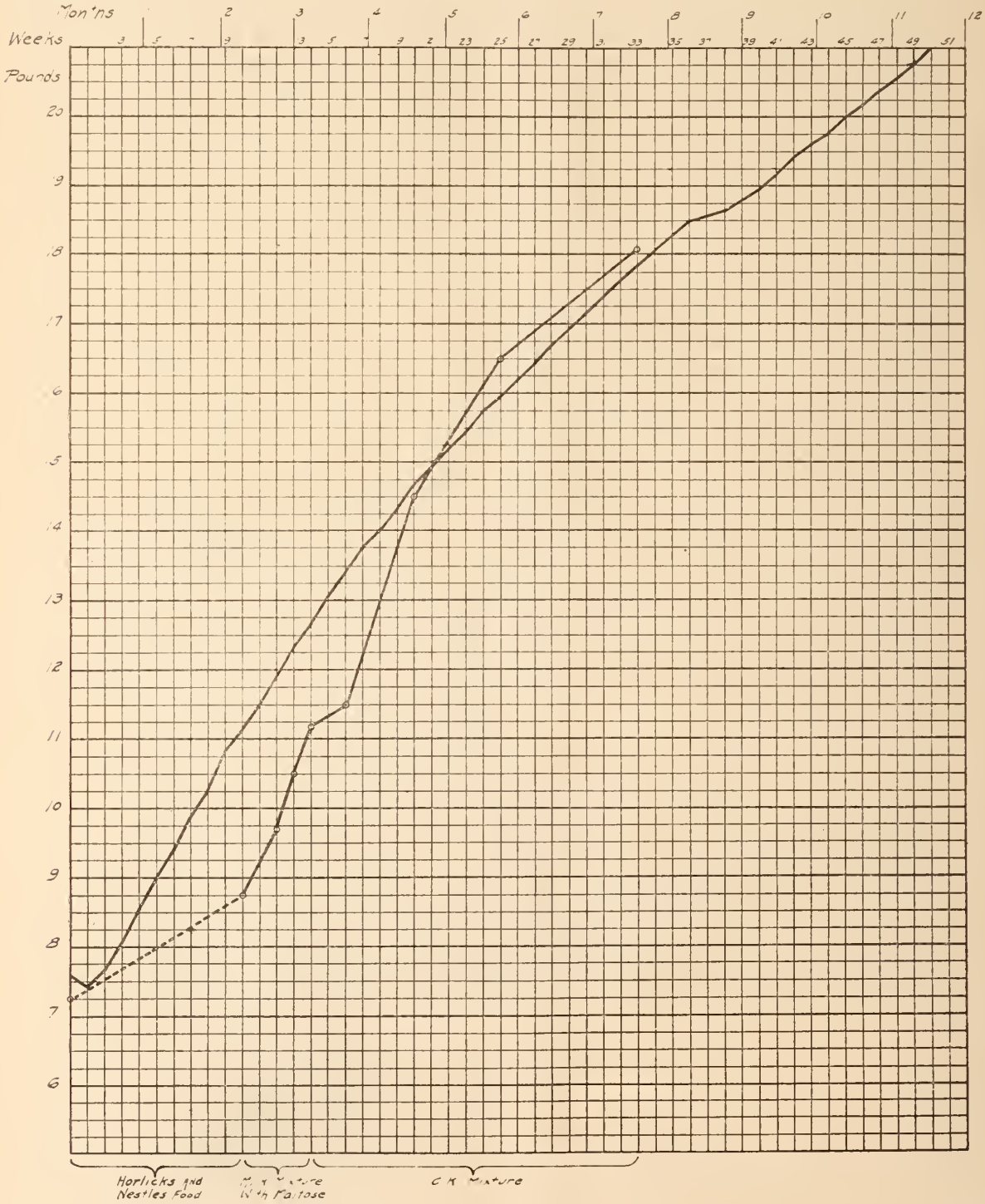
Numerous factors must be considered in the appraisal of any given food. Recent experiments with accessory food substances or vitamines indicate the complex nature of foods. An infant's food should certainly meet the necessary requirements of the nutrition laboratory. The consideration of any food must embrace not only the caloric capacity of the food, but its biologic nature, and whether it adequately furnishes all the necessary food elements the growing organism needs.

The school of Pirquet disseminated the view that carbohydrates could replace fat isodynamically in the body metabolism. There is, indeed, abundant experimental evidence that carbohydrates may serve as a source of body fat (Chemistry of Food and Nutrition, H. C. Sherman, Macmillan & Co., 1920). Von Groer (Biochem. Ztschr. 1919, 97, 311) studied the effects of a diet containing less than 0.01% fat, replacing the low fat with an increased sugar content. He believed that it was possible to successfully nourish the young infant in this manner, the experiment illustrating the capacity of the infant's body to synthesize fat from carbohydrates. The validity of these results are disputed by Aron (quoted by Frontali, Jahrbuch. fur Kinderh. 1922, 97, 162) who maintains that such subjects sooner or later show a plateauing of their weight curves, and also exhibit a diminished resistance to infection. Bloch (quoted by Frontali) refutes the conclusions on the basis of observations made with low fat diets in Denmark. Bloch described a condition of nutritional disturbance resulting from such diets, which he terms "dystrophia alipogenetica."

The investigations of Weigert (quoted by Frontali) present an interesting commentary on the subject. He demonstrated that experimental animals fed on high carbohydrates have less immunity than those fed on high fat. The former show a water-logging of the tissues. Weigert studied ten animals, five of which he gave a high carbohydrate feeding, and five of which a high fat feeding. He later infected both groups with bovine tuberculosis. The animals who were reared on a high carbohydrate ration showed extensive miliary tuberculosis. The others showed relatively few localized areas of tuberculous infection.

*Read before the State Medical Society of Wisconsin, Green Lake, Sept. 6, 1922.

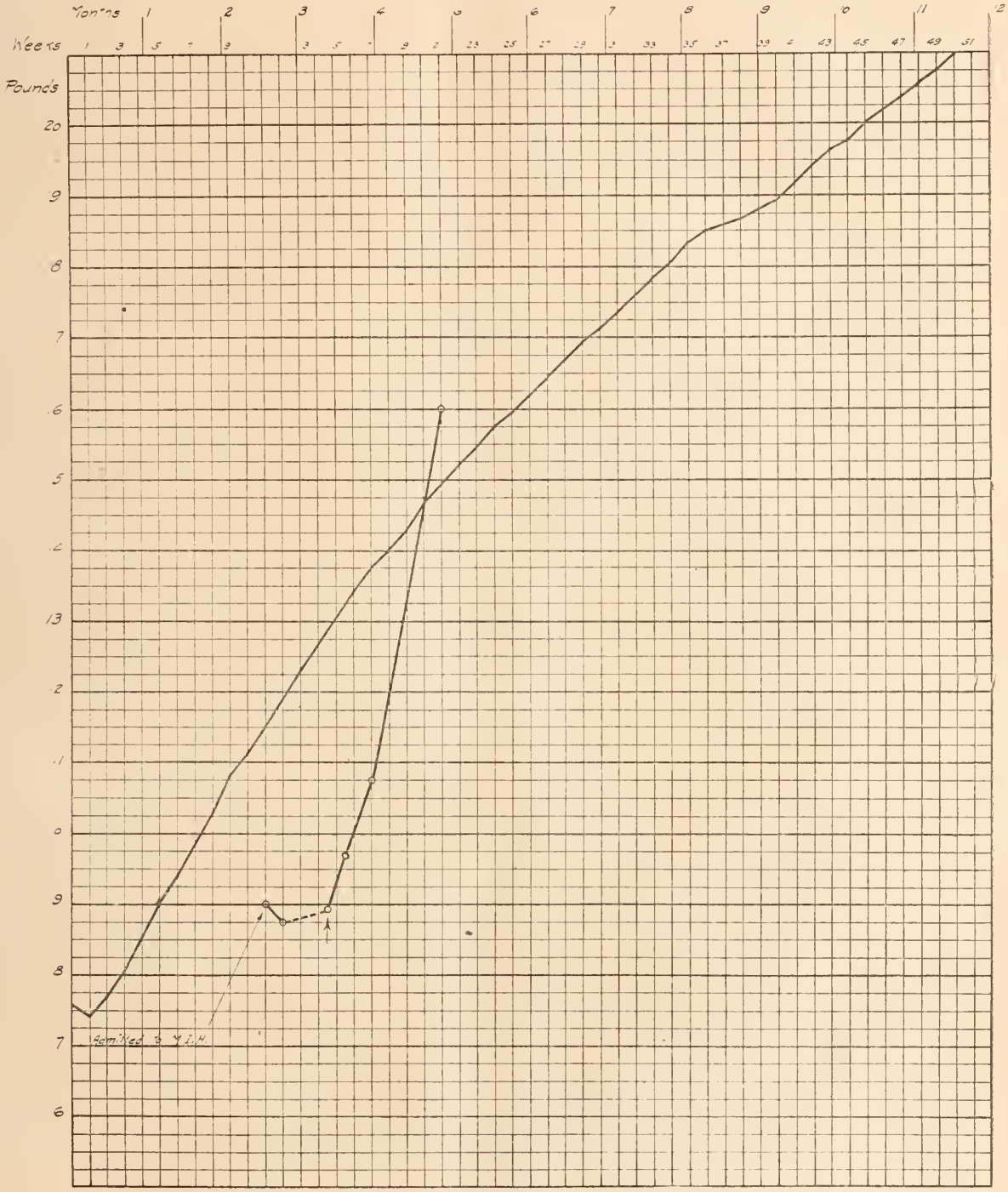
Holt (A. J. Dis. Child., 1922, 23, 471) has very recently challenged our present impressions on this subject. He calls attention to the very generous provision of fat in human milk. He likewise emphasizes the varied functions fat performs in the human organism. As a source of energy it provides more than twice as many calories per gram as do either protein or carbohydrate. It plays a significant role in the mineral metabolism in that it influences the absorption of calcium salts. He recalls its effect as a protein sparer and its important service in maintaining normal condition in the intestinal tract.



The fat requirements of the infant are, according to Holt, about four grams per kilo of body weight. While the nursing mother readily furnishes this re-

quirement to the young infant, it is quite generally conceded that the same amount of fat in a cow's milk mixture would be a hazardous procedure.

In 1918, Czerny and Kleinschmidt (Jahrbuch. fur Kinderh. 1918, 87, 1) devised their butter-flour mixture. As originally employed, the butter-flour mixture consisted of 7 grams each of butter and flour with 5 grams of cane sugar to every 100 c.c. of water. With this as a stock solution, infants were usually given a feeding compound of two-thirds of the butter-flour mixture and one-third whole milk. In a later communication, Kleinschmidt (Berliner Klin. Wchnschr., 1919, 56, 673) advised the use of weaker mixtures for initial feedings.

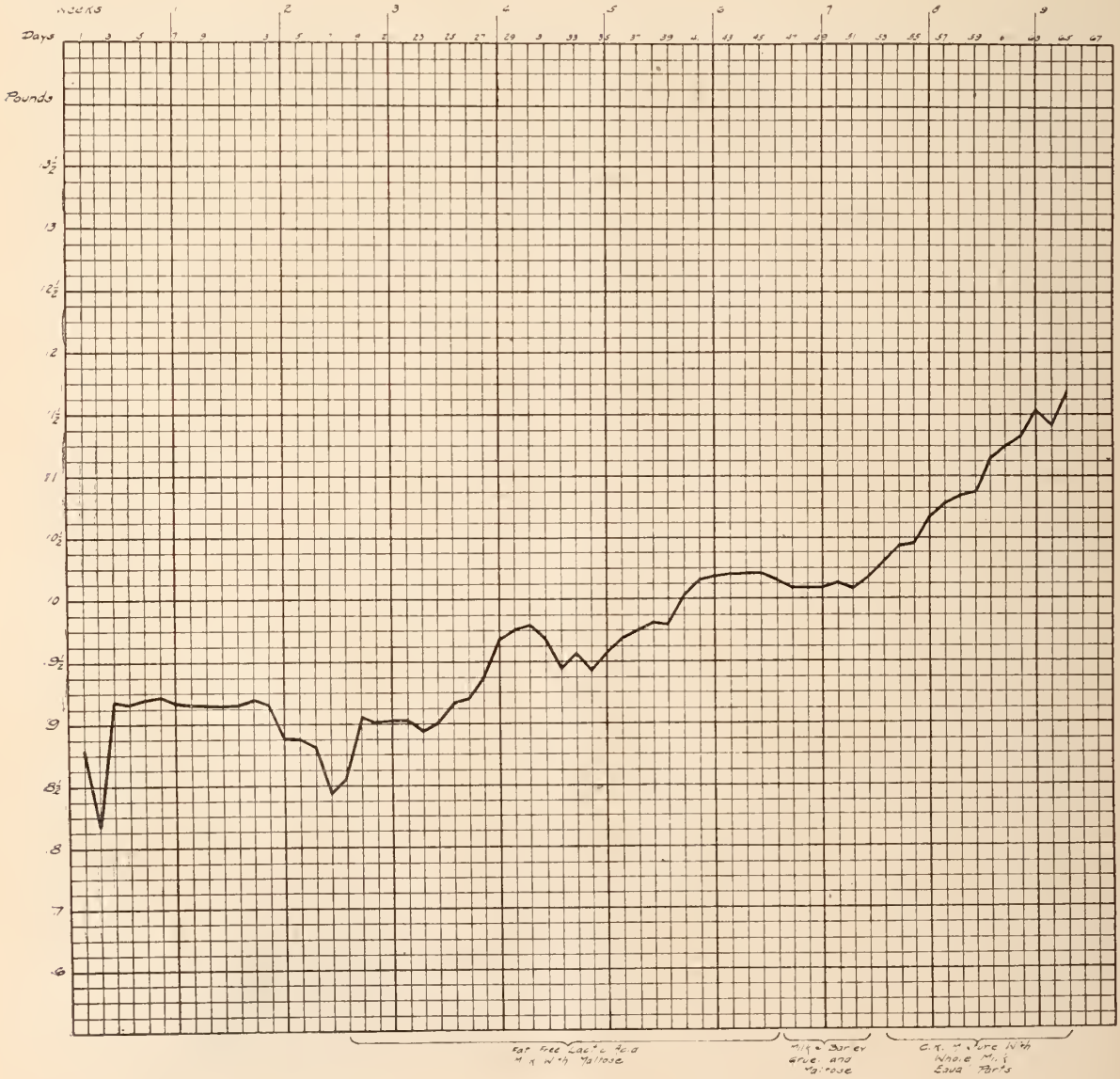


Griffith and Mitchell (N. Y. Medical Journal,

Aug. 3, 1921) in an excellent review of the subject translated the above values into practical household measurements. The measurements as suggested by them are: 2 level tablespoons of melted butter, 2½ level tablespoons flour, 1 level tablespoon of cane sugar to every 10 ounces of water. Analyses made for Griffith and Mitchell by Dr. Leon Jonas in the Pepper Medical Laboratory of the University of Pennsylvania showed the food value of the mixture to be approximately 5% fat, 10% carbohydrate, and 0.5% protein. Each fluid ounce of the stock solution represented 26.6 calories. With this analysis as a basis, a mixture of two-thirds stock solution and one-third whole milk would represent approximately 4.6% Fat, 8.2% Carbohydrate and 1.5% Protein.

Considering the analysis from a theoretical standpoint, it is noteworthy that we have in this mixture not only a food approximating the relative proportions of the elements composing breast milk, but the aggregate of which gives us a food value equivalent to breast milk. The relation of fat to carbohydrate is 1:1.6. In breast milk the relation is 1:1.7. Many observers emphasize the importance of this relationship, attributing to it many of the good results that have been achieved by the use of this food.

Zielaskowski (Jahrbuch. fur Kinderh., 1922, 97, 330) in a study of the utilization of the butter-flour mixture demonstrated absorption values ranging from 4.8 to 6.6 grams per kilo weight daily. Inasmuch as previously mentioned, the normal



needs of the infant are about four grams per kilo per day, it is obvious that in this mixture we possess a food capable of fulfilling the infant's fat requirements, a desideratum that is not achieved in many of our infant formulas.

Mitchell, in reporting the use of Czerny-Kleinschmidt's feeding at the Children's Hospital, Philadelphia, gives an excellent review of the expressions of opinion on its use by various continental pediatrists. The concensus of opinion is still that we have in Czerny-Kleinschmidt's feeding a food possessing unusual value if correctly applied. In a more recent publication, Kleinschmidt (Monatschr. fur Kinderh., 1921, 19, 369) warns against using it indiscriminately, recalling the definite indications laid down in his previous articles.

Kleinschmidt classifies the subjects suitable for the butter-flour mixture into several groups. Among these are:

1. Newborns, for whom sufficient breast milk is not available. In institutional work, this group comprises a large proportion of the admissions. Just as often one encounters this type in private practice. They constitute that large mass of babies who in the first few weeks are a source of neighborly experiment. The initial difficulty in these instances is frequently a deficient breast milk, that deficiency being either quantitative or qualitative in character. It is true that many of these patients if seen early, before confusing food intolerances have complicated the situation, respond readily enough to complementary feedings with very simple milk dilutions. However, the happy result is frequently more quickly attained with the butter-flour mixture, thus sparing mother and child that harassing period of restlessness, finger-chewing, night-walking, and neighborhood disorganization. It is surprising to see how readily these infants demonstrate contented facial expressions, sleep quietly, and exhibit the skin turgor and color characteristic of the normal infant. The stool becomes yellow and salve like. In this connection it is well to remember that since this food is one of such high caloric value, smaller quantities and less frequent feedings are necessary than with the usual milk mixtures. Intervals less than four hours are not advisable. Even then, we have observed occasional manifestations of anorexia that seemed due to the very rich food—the anorexia disappearing when weaker milk dilutions were employed. The occurrence of slight degrees of regurgitation is not uncommon and should not be interpreted as evidence of food intolerance. Using the butter-flour mixture in "allaitement mixte" it may be either given as a complementary or a supplementary feeding. Schlossman (Münch. Med. Wchnschr., 1922, 69, 46) makes up a mixture with the butter-flour-sugar ingredients representing a 7.7.5 proportion of the entire feeding instead of the C. K. solution alone, so that his final mixture is about 8-9% Fat, 14% Carbohydrate, and 1.5-2% Protein. Employing it only in "allaitement mixte," he covers one-half day's need with this mixture. He reports that the food is generally well taken.

In his later publications, Kleinschmidt recommends using 5% butter and flour respectively and 4% sugar instead of the 7.7.5 proportion originally advised.

Very weak infants may be started on percentage ingredients less than these. With a few infants, I have begun with a 3.5-3.5-2.5 ratio. Varying the percentages of the ingredients and still maintaining their relative proportions is easily accomplished by simply changing the amount of water used in the preparation.

Likewise, the food may be altered by substituting skimmed milk for whole milk. Inasmuch as the food affords a greater fat ration than is normally required by the growing infant, this substitution detracts little from the usefulness of the food—and in our experience has been very successful in application. The usual instructions given to the mother read:

Prepare formula as follows:

Take 2 tablespoons melted butter, place in a sauce pan and allow to foam over a gentle flame until the bubbling stops (3 to 5 minutes), add 2½ level tablespoons of wheat flour, stirring constantly until the butter-flour mass becomes fairly thin and brown (3 to 5 minutes), add .... oz. hot water (add the water all at one time) then add 1½ level tablespoons cane sugar. Remove from flame, cool, and strain.

Get .... oz. milk, skim .... oz. cream from the top before shaking the bottle. Take .... oz. of milk, bring to a boil, then cool. Mix the butter-flour solution with the milk.

Divide the mixture into .... bottles. Give a bottle at .....

2. The second group of cases that Kleinschmidt considers suitable for the use of his preparation

are those infants in the stage of repair following acute digestive disturbance. He advises caution in these instances. Particularly, must one be circumspect with regard to the character of the stools. If there is a tendency to recurrent looseness of the bowels, the increase of butter-flour mixture should not be made unless the cooperation between the patient and physician is close enough to insure a constant awareness of any change in the infant's digestion.

In this group of cases the transition from albumin milk or butter milk or skimmed milk dilutions that have been employed during the acute digestive upset to the butter-flour mixture may be made one feeding at a time, ever alert to any untoward effect during the transition period. The sugar may be omitted entirely for a short time, or, as later suggested by Kleinschmidt (Monatschr. für Kinderh. 1921, 19, 369) buttermilk may replace the milk ordinarily used. In institutional work Kleinschmidt used two formulas—Buttermilk with 2% butter, 3% flour; Buttermilk with 3½% butter, 3½% flour. In recent work at the Milwaukee Infants' Hospital, I have used Fat Free Lactic Milk with the original 7.7.5 C. K. mixture with pleasing results. (Chart J. F.).

If looseness of bowels sets in, it is wise to omit the food temporarily and gradually resume it after the bowel condition is checked. It is hazardous to continue the use of the butter-flour mixture once the infant has shown an inability to handle it.

3. A third group of infants suggested by Kleinschmidt are those seen with infections not involving the digestive tract. Whether or not the high fat content of this mixture influences the resistance to infection, certain it is that these infants respond very favorably to this feeding. That infants with furunculosis, pyodermias, respiratory infections and other extra-intestinal disturbances are susceptible to parenteral infections of a severe character is well known. The rapid weight responses noted on the chart of our patient C. L. is apparently a phenomenon that Kleinschmidt and others have experienced.

4. A fourth group of cases Kleinschmidt roughly classified as those with "constitutional abnormality." Under this rather vague heading he considers the following unrelated conditions.

(a) Exudative diathesis.
(b) Neuropathic diathesis.
(c) Hypotrophic infants.

The undernourished type of exudative diathesis not infrequently shows a favorable response to the food. Friedberg recalls (Jahrbuch fur Kinderh., 1920, 93, 16) Huebner's viewpoint that fat is not a dangerous element in the diet of these infants, an idea contrary to the prevalent attitude taken regarding the use of fat in infants with eczema.

The pleasant taste of the feeding helps overcome the aversion to food seen occasionally in the neuropathic infant. Some observers are of the opinion that this accounts for its beneficial effect on the vomiting seen in the hypertonic infants. The clinical reports of this group of cases shows as striking results with this food as are encountered. They have been favorable enough to warrant the use of butter-flour sauce in the anorexia of infants past their first year.

The hypotrophic infants from the largest group of suitable subjects for the use of the C. K. mixture. Generally speaking, they are that group of infants who have not had a digestive upset, but who fail to gain weight on ordinary food mixtures. (Chart J. W.). Such infants as have not suffered intestinal injury by too frequent food changes afford the most promising subjects for the food. This group should not include the cases of severe "Dekomposition" — "desolate atrophiker," Friedberg calls them, as these should have first had their food tolerance tested before beginning so rich a mixture as the C. K. mixture. Infants who present difficulties in digestion besides being atrophic will probably react poorly to the high caloric valued C. K. mixture. Where these infants demonstrate a capacity to digest the food without resulting in looseness of the bowels, they will most invariably show a good response, not only reflected in the weight curve, but the color of the skin, the general activity, and the condition of the bowels will exhibit evidence that identifies the normal infant.

Obviously, there are instances even in these well-defined groups that respond poorly to this new feeding. To think of Czerny-Kleinschmidt's mixture as a food devoid of limitations is to welcome disaster. Whatever other factors determine the beneficial results experienced with this food, it is certain that a very important element in its effect is its high fat content. Finkelstein (Lehrbuch der Sauglingskrankheiten, Berlin, 1921) wisely emphasizes the variability of response to the fatty element in an infant's food. * * * "Keines Nährstoffes Bekömmlichkeit so 'relativ' ist, so

wandelbar durch die sonstige Zusammensetzung der Nahrung — den 'Nährstofferband' — auf der einen und so abhängig von der Individualität des Kindes auf deranderen Seite, wie die des Fettes."

It is, therefore, essential to choose the subjects with a discrimination based upon the individual infant's capacity. No less important than a proper selection of subjects is an unqualified co-operation of the infant's mother and physician. Infants taking this food may exhibit gains in weight despite simultaneous bowel disturbance. Unless accurately controlled, such weight gains are apt to lend a false sense of safety which may ultimately lead to food intolerance and severe digestive upset.

This has led some continental pediatrists to limit the use of the feeding to hospitals only. With proper cooperation, equally good results may be achieved in the home.

Beginning with weak dilutions, subsequent increases should be made with primary consideration of the infant's fat tolerance. Properly controlled, the use of the Czerny-Kleinschmidt feeding constitutes a most useful advance in the artificial feeding of infants.

GASTRIC FINDINGS IN CHILDREN WITH ANOREXIA.

The study reported on by L. W. Sauer, L. D. Minsk and W. G. Alexander, Evanston, Ill. (*Journal A. M. A.*, July 15, 1922), deals with the gastric motor and secretory functions of two groups of children. The average emptying time of the stomach for twelve children with good appetite was four and one-half hours; that for twenty-one children with poor appetite was six and one-tenth hours. The stomachs of the twelve children in Group A were empty in five hours; while sixteen of the twenty-one of Group B still had retention at the end of five hours. All but one of the twenty-one children with poor appetite had an original emptying time longer than that found to be the average for the children with good appetite. The average total hydrochloric acid for the twelve children with good appetite was 61.2, the free acid 26.3; for eighteen with poor appetite, the total acid was 49.4; the free acid 14.9. In two children of the group with poor appetite, free acid was absent on examination and on reexamination months later, while their emptying times were not especially long. Eleven of the twelve children of the former group were of the sthenic habitus. Sixteen of the twenty-one children of the latter group were of the hyposthenic or asthenic habitus. In a number of asthenic children, the emptying time of the stomach and the amount of acid were influenced beneficially by proper measures, and this was reflected by an increase in appetite and weight.

RICKETS: A REVIEW.*

BY H. K. TENNEY, M. D.,

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The application of more exact methods of diagnosis, namely roentgenology and blood chemistry, is revealing the fact that rickets is a much more prevalent condition than was formerly supposed. Hess, in an extensive study of a series of apparently normal children, found that almost all of the bottle fed and over half of the breast fed showed definite evidence of rickets during the latter part of the winter and early spring. Similar observations have been made by others and much experimental work has been done in an attempt to determine the etiology of rickets. Many of the results are so contradictory and the material is so vast that an attempt will simply be made to summarize some of the results.

The role of foods in the causation of rickets has always been stressed. Still, of London, maintained, many years ago that fat starvation was the fundamental fault in diet but admitted that many cases of rickets develop where no error of feeding could be found. These he assumed to be due to faulty assimilation of fats. On the other hand, high fat, high carbohydrate, and high protein diets have all been blamed for the development of rickets.

That rickets is a deficiency disease like scurvy and beriberi has been claimed by many authors, but here we find many discrepancies between experimental and clinical observations. It has been found that lesions similar to rickets can be produced in rats by diets deficient in calcium and phosphorus and that these lesions are especially marked if there is also a deficiency of fat soluable. A. These experimental lesions can regularly be prevented by the administration of cod liver oil and also by exposure of the animal to the ultra violet rays—facts that do not fit in well with the theory of a pure vitamine deficiency.

Freudenberg of Berlin from the decreased blood phosphate and increased urine phosphate and ammonia, regards rickets as an acidosis. He states that the low blood phosphate causes a marked increase in the mobilization of calcium thus maintaining a normal blood calcium but an abnormal composition of ions. He says that the acidosis results from a retarded metabolism which leads to

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*From the Department of Clinical Medicine, University of Wisconsin.

the formation of acid intermediate products. He regards the retarded metabolism as an essential factor and states that the child becomes rachitic when it lacks such metabolic stimuli as light, vitamine, rich food, etc. That this last statement contains much truth is unquestioned but the conclusion that rickets is a phenomenon of acidosis seems rather too sweeping to be accepted at present.

It has been said that milk from stall fed cows is low in fat soluble A and hence predisposes to or actually causes rickets. However, Jundell of Sweden in feeding experiments found vitamine rich milk from pasture fed cows had no effect on existing rickets nor did it prevent its development. Jundell believes that the disease is an inhibition of the endocrine glands due to over-feeding and he has obtained some very good results in the treatment of rickets by simply reducing the quantity of food. In support of this theory he quotes some observations made by Tallquist on two recognized endocrinopathies, namely diabetes mellitus and Grave's diease. A survey of Finland during the food shortage caused by the war showed that there was a marked reduction in the incidence of these two diseases. Unfortunately there are no statistics quoted on the incidence of rickets. But in spite of these findings it is hard to believe that simple over-feeding is the cause of rickets as it is in the inhabitants of city slums, where over-feeding is certainly rare, that the disease is most frequently seen.

McCollum and his co-workers have recently published some work from which they conclude that cod liver oil contains, in addition to fat soluble A, a specific anti-rachitic vitamine. As Hopkins has shown that fat soluble A is destroyed by oxidation, McCollum used a cod liver oil that had been oxidized by heating to 100° C. for 12 to 20 hours while air was being blown thru it. That this oil is lacking in fat soluble A is shown by its failure to cure xerophthalmia, but its curative effect on rickets is preserved.

But when we consider the clinical facts in rickets it is quite evident that a vitamine deficiency falls far short of being a full explanation of the observed phenomena. Thus the development of rickets during the winter months, and its spontaneous cure in summer, its cure by exposure to light without change in diet, and its development on any diet, are hard to reconcile with the theory of a pure vitamine deficiency. In this connection some observations of Hutchinson and Shah of India are of interest. In the Nasik district the fairly well-to-do class are able to, and do procure a liberal diet with plenty of fresh milk and butter but social custom confines the women and hence the children to small, dark rooms. The poorer class live a more hand-to-mouth existence, their diet is low in butter fat and high in carbohydrate but they are in the open fields all day. In a group of the well-to-do Hindus and Mohammedans the percentage of rickets was 38.2 and 28.5 respectively while that in the poor Hindus was only 6.4. Incidentally among the poorer classes scurvy, a true avitiminosis, was very common.

The recent investigations on the blood in rickets indicate that the inorganic phosphate is quite regularly reduced but cases of undoubted rickets are sometimes seen with a normal blood phosphorus and on the other hand a low blood phosphorus is sometimes seen when there is no other sign of rickets. However, rickets seems to be the most important condition associated with a low blood phosphorus and Tisdall of Montreal believes that it always indicates rickets. Figures of 3.0 mg. or less per 100 c.c. are considered rachitic. The serum calcium is often reduced but not as regularly nor as markedly as the phosphorus. In a series of 21 cases Howland and Marriott found an average of 9.4 mg. per 100 c.c.

McCollum, Shipley, Park and Simmonds suggest that there may be two types of rickets. One associated with a low blood calcium and the other with a low blood phosphorus. Between these two there are borderline cases with varying calcium-phosphorus ratios. They find that tetany is most apt to be present in the low calcium type. The effect of the phosphorus in the diet on the blood phosphorus is somewhat inconstant but Von Mysenbug has made some clinical observations that are of interest: Twenty-one normal breast fed infants were examined for the phosphate content of the serum and similar analyses were made of the breast milk they were receiving. The figures obtained were: milk phosphate 4.8 mg. per 100 c.c. and serum phosphate of infant 5.0 mg. per 100 c.c. A similar series of observations were made on 11 rachitic breast fed infants with the following results: milk phosphate 4.8 mg. per 100 c.c. and blood phosphate 2.8 mg. per 100 c.c. These results seem to demonstrate that the cause of rickets in these cases was certainly not a quantitive lack

of phosphorus. Furthermore it has been shown that the breast milk of a woman with a rachitic baby can be fed to another child without rickets developing.

The effect of light on the calcium-phosphorus metabolism is a very striking one. Children with even very severe rickets improve with remarkable rapidity when exposed to the direct rays of the sun or of a carbon arc lamp. The changes in the bones can soon be detected by the X-rays and the blood phosphorus content rapidly rises. The bone changes as seen in the X-ray picture are the most reliable evidence of the healing process and of its extent. Hess has made some very interesting observations on the seasonal tide of the blood phosphate in normal infants. As it has been shown by Dorno that sunlight is far richer in ultraviolet rays during the summer and fall than it is in the winter and spring, Hess followed the changes in the inorganic phosphate of the blood of a series of normal infants through a year. He found that in June and July the average was 4.35 mg.; by December it had fallen to 3.92 and in March was 3.59. During April it began to rise and by the end of May was up to 3.99 which is very nearly normal. In all probability it is this effect of sunlight on phosphorus metabolism that makes the dark skinned races so susceptible to rickets. When in their native habitat, scantily clad and exposed to intense sun, rickets is rare, but when they are clothed and moved to a colder climate they become peculiarly susceptible. I have not seen any comparative observation on the serum phosphate of colored and white infants but I think such a series would be quite interesting.

In summing up the status of the rickets problem, certain conclusions seem justifiable. First, that an accessory food factor, the distribution of which beyond cod liver oil is unknown, plays an important part in calcium phosphorus metabolism. Second, that the inorganic phosphate of the blood is quite regularly lowered in rickets, and third, that the blood phosphate is very constantly raised by exposure to ultra-violet light. Just what the inter-relationship between the action of the accessory food factor and ultra-violet light is, remains a question, and it is probable that its solution will take us far in a real knowledge of phosphorus metabolism.

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LETHARGIC ENCEPHALITIS IN WISCONSIN.

BY W. F. LORENZ, M. D., AND W. J. BLECKWENN, M. D.,

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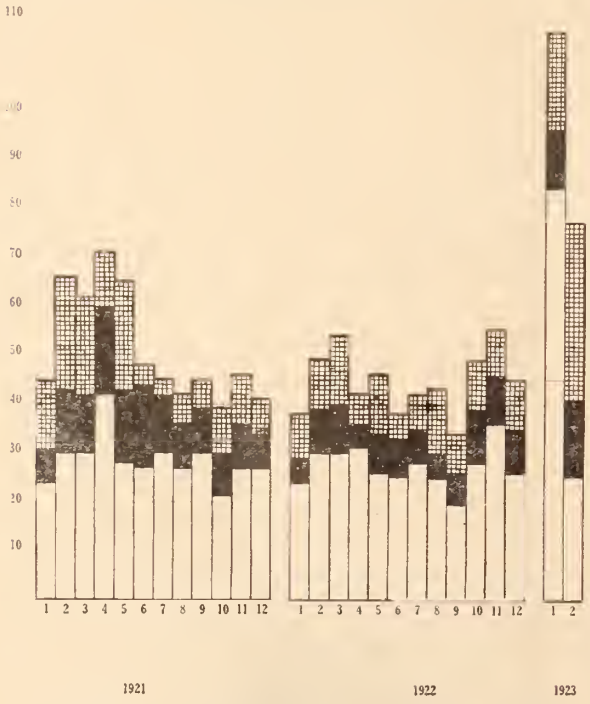
It appears that lethargic encephalitis is again becoming quite prevalent in the East. This is interesting because similar reports appeared early in 1921 and 1922. At that time, following the development of lethargic encephalitis in the East, a number of cases were found in Wisconsin. Our records show that the development in Wisconsin was greatest during the months of March and May of 1921 and a recurrence of this situation in the Spring of 1922. So far in 1923 we have already experienced a wave of lethargic encephalitis which will surpass our records of 1921 and 1922.

The clinical picture of lethargic encephalitis is variable. The classical cases of mental torpor, transient diplopias, degrees of ptosis and other cranial nerve involvements associated with tremors, rhythmical muscle spasms, masklike face and temperature varying from 99 to 102 with occasional afebrile periods, is easily recognized, but many cases do not show this classical picture. Restlessness and sleeplessness, delirious episodes, etc., are not unusual. Definite focal involvement of the brain may occur, stiffness of the neck muscles and

coma suggesting meningeal irritation is often seen. In fact,, the clinical manifestations may be almost anything and this can be expected when one recalls that the lesion is in the brain where it may be circumscribed and limited to definite areas or it may be widespread involving the greater part of the cortex and the basal ganglia which, incidentally, are probably most frequently involved. It must also be held in mind that during the course of the disease the manifestations change; that the nervous involvement may be transient.

It is not intended to make a clinical description of lethargic encephalitis in this paper but rather to stress the great diagnostic aid that lies within the scope of every practitioner in Wisconsin. Ever since lethargic encephalitis was recognized it has been known that the spinal fluid gives very definite and unmistakable evidence of this disease. Invariably the diagnosis of lethargic encephalitis is clinched by the spinal fluid findings. With this well-established fact and the free service to the physicians rendered by the Wisconsin Psychiatric Institute it is believed that in Wisconsin the recognition of this disease is made easier.



This chart shows the results of (1445) spinal fluids examined during 1921 and 1922 and January and February of 1923. The examinations are shown by month. The white column represents the normal fluids. The dark part of the column represents the syphilitic fluids and the checkered part represents the pathological fluids that were non-syphilitis and mainly in cases of lethargic encephalitis and poliomyelitis. Note that syphilitic fluids (dark part of column) remained fairly constant throughout the period shown.

As evidence of the very definite increase of lethargic encephalitis during the Spring of 1921 and 1922 and for January and February of 1923, attention is directed to the accompanying chart. This chart shows the number of spinal fluids examined by us for practicing physicians in Wisconsin during the period specified. The results of these examinations are shown for each month. The total number is indicated by the height of the column. The white portion of the column represents the number of normal spinal fluids. The checkered part represents the number of fluids that were pathological and almost entirely from cases of lethargic encephalitis. The black represents the number of spinal fluids from syphilitic cases. It will be noted that in March and May of 1921 the number of fluids from lethargic encephalitis cases were relatively large. For the year 1922 the increase again occurred in February and continued through March, becoming somewhat less during April but again showing an increase in May. In June and July of 1922 the number of such fluids fell off. The increase in August of 1922 was mostly by fluids from cases of poliomyelitis and this condition continued during the succeeding four months. In January, 1923 we again find a great increase in the number of fluids from cases of lethargic encephalitis. This increase became still greater in February, 1923, (the last column represented in our chart).

It is also noteworthy that during the period when cerebral spinal fluid examinations were of greatest possible value to the clinician the total number of examinations requested was largest. This evidences, to our mind, the readiness of our Wisconsin physicians to avail themselves of scientific help when such is essential for the full understanding of the patient's illness.

CEREBRO-SPINAL FLUID IN LETHARGIC ENCEPHALITIS

Certain findings in the spinal fluid are very definite and unmistakable. The gross appearance of the fluid is normal. The pressure is usually somewhat increased. This, however, has only limited significance. The constant findings in all cases personally examined and several hundred cases in which the spinal fluid has been examined by us is as follows:

Lymphocytosis—ranging from 10 to 60 per cubic millimeter.

Gold Sol reaction—1232210000.

Globulins—95% positive.

Wassermann reaction—negative up to .5 c.c. of fluid.

In other words, an abnormal cell count with a positive "Gold Sol" reaction of a certain character and quite constantly positive globulin tests with a completely negative Wassermann reaction comprises a serological syndrome that is characteristic for lethargic encephalitis.

INTERPRETATION OF "GOLD SOL" REPORTS.

The reaction of the spinal fluid to "Gold Sol" is reported according to the color changes that take place in a series of 10 tubes. The maximum reaction in any one tube is designated as 5. Lesser degrees of reaction are designated as 4 or 3 or 2 or 1 and no change in the color, in other words, a negative reaction, is designated as O. It has become a practice to report the findings in each tube for the entire 10 as a series of numerals ranging from 5 to 0, indicating the degree of reaction in the 10 tubes, reporting from left to right.

The 10 tubes comprise a test. These are divided into zones. The first 5 or 6 tubes from the left are usually referred to as the syphilitic zone. The tubes to the right of the center, that is, Nos. 7, 8, 9, 10, are usually regarded as the meningitic zone. Fluid from lethargic encephalitis reacts in the syphilitic zone. This is also true of disseminated sclerosis; that is, the changes in the "Gold Sol," varying in degree from 4 to 1, are found in the first 4 to 6 tubes reading from the left. The "Gold Sol" reaction alone is, therefore, not sufficiently characteristic to assist in diagnosis unless a Wassermann test is also made with the fluid. Furthermore, the Wassermann test must be made with large amounts of fluid. If negative under such conditions a diagnosis of syphilis of the central nervous system can be completely ruled out. Disseminated or multiple sclerosis will also show a negative Wassermann reaction. In this condition, however, the clinical history and manifestations are such as to easily differentiate this disease from lethargic encephalitis. Consequently, the spinal fluid findings already outlined, associated with the clinical manifestations mentioned, presents a situation that leaves no room for doubt.

It is strongly urged that in every doubtful clinical case of temperature with a suggestion of central nervous involvement which may be limited entirely to mental manifestations, that a very careful neurological examination be made and a lumbar puncture performed and a complete spinal fluid examination secured. The cell count can best be made with freshly drawn fluid. This is a simple procedure requiring a ruled chamber, preferably the Turck type, and some simple stain such as the Fuchs-Rosenthal. For the "Gold Sol," globulins and Wassermann the fluid should be sent to a laboratory. It is extremely important in making the spinal fluid examination that the Wassermann test include the use of large amounts of fluid, that is, up to .5 of a c.c. In other words, syphilis of the central nervous system must be definitely excluded otherwise the cell count and "Gold Sol" reaction cannot be properly interpreted.

CONCLUSIONS.

Diagnosis of lethargic encephalitis is made certain by spinal fluid examinations. From present indications it appears that there will be a larger number of lethargic encephalitis cases in Wisconsin this year than in the previous two years.

EARLY DIAGNOSIS OF CHRONIC CARDIAC CONDITIONS.*

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One of the most important advances that modern medicine has made is the demonstration that many chronic diseases with an underlying incurable pathology, can be, in large part, controlled and their progress arrested. Diseases hitherto regarded as hopeless in their outlook are now recognized as not incompatible with many years of normal useful life. The one striking fact that has come with this recognition is that the factor above all others determining prognosis is the stage at which the chronic process is recognized and control measures instituted. Efforts to extend our ability to recognize these pathological processes at the earliest possible moment represent, therefore, at least one of the most important lines of endeavor in the study of chronic disease.

The heart is an organ peculiarly prone to chronic disease. Its position in the main blood vascular stream exposes it to bacteriaemias and toxaemias of whatever origin and its function as a

*Read before the Tri-State District Medical Society, 1922.

mechanical pump to maintain an efficient circulation through all organs of the body subjects it normally to great variations in its physiological load and even greater demands when pathology in other organs develop. It is an organ which stands at least in large part alone in its peculiar function. The glands of the skin and the intestinal tract may function in large part for the kidneys, every endocrine organ is in its function only an interrelated part of an extensive system, a large portion of the lungs may be set at complete rest to facilitate defensive reactions. The heart has no co-worker to assume vicariously even a part of its function in time of trouble and stress. It is an organ which not only must always function, but which must show a function capable of greater variations probably than any other continuously active organ in the body. Direct determinations have shown variations within the normal of at least seven times unity, a demand known to be exceeded when abnormal conditions develop.

Chronic cardiac conditions fall clinically into two great groups, first the group consequent upon invasion of the body by pathogenic organisms and by toxaemias developing from various causes, and second the group associated with disturbances in nutrition either directly in the heart itself or in other organs and thus indirectly affecting the heart, and due in the great majority of cases to local or general arterial disease. As a rule we are concerned with the first group before, the last group after, the mid period of life. This differentiation has long been recognized and many associated facts have assimulated from years of experience. We know, for example, that in the former group the underlying pathology is usually an endocardial involvement which is particularly prone to affect the mitral and less frequently the aortic valves directly in the process, while in the latter group one finds more frequently an initial myocardial or aortic change with secondary valvular involvement. Numerous exceptions occur, but as a working basis this differentiation has great advantages. In the latter our attention is focused on the myocardium and etiology is sought in the vascular system and other organs are studied for concomitant evidence of vascular insufficiency. Recognizing the limitations of this broad differentiation, it is nevertheless convenient and fairly accurate for the great mass of cases met with in clinical practice.

The three main fields of inquiry to which we direct our attention in any particular case and upon which we base our diagnosis are (1) Etiology, (2) Symptomatology, (3) Physical Examination. I should like to include under the latter any or all of the objective methods applied to a study of the body which may help us to detect underlying pathology, either directly by the usual senses, or through the assistance of special instruments. It will be impossible for me to cover systematically each of these divisions; but what I shall try to do is to point out certain things under each which I regard as of especial importance.

Etiology. The one outstanding etiological factor in the causation of chronic cardiac disease in individuals below the age of fifty is acute rheumatic fever. A careful cardiac vascular study of a series of thirteen of these cases during initial attacks in the University Hospital at Madison last year showed in twelve definite evidence of cardiac involvement during the course of the infection. It is possible that the heart is affected in every case of acute rheumatic fever; in only approximately half, however, to the extent that a sufficient functional handicap develops to constitute clinical heart disease. It is safe, however, to regard every case who gives a definite history of rheumatic fever as a potential case of heart disease and in the presence of physical findings of doubtful significance to take this into account. In this connection it is important to remember that "rheumatism" from the medical standpoint means nothing. It has a similar significance in a history as "shortness of breath" or "spitting blood." It is necessary to inquire in detail into the nature of the illness to differentiate it as one of acute rheumatic fever. Next to acute rheumatic fever the most important disease in the preceding history as a possible etiological basis are chorea, recurrent attacks of tonsillitis and syphilis. In an individual below fifty, it is important to remember that an aortic lesion alone, aortitis, or myocarditis without a precedent endocarditis is in the great majority of cases of leutic origin and justifies anti-leutic treatment even in the absence of a positive history and a positive Wassermann. Less important from the etiological standpoint are influenza, scarlet fever, diphtheria, measles and typhoid fever. The last named disease is important in that it may simulate subacute endocarditis. In the second broad group of cases that we have recognized,

habits of living are of more significance from the standpoint of etiology than preceding disease, and these in general are those prone to produce early arterial degeneration.

Symptomatology. The main effort in the diagnosis of early chronic disease of the heart should be before definite symptomatology develops. Accurate observation teaches that in both of these groups of cases the initial pathological change may and usually does develop for long periods of time before evident symptoms occur and the fact of "heart disease" is impressed on the patient's mind. There are certain points, however, in regard to the significance of certain complaints which are worthy of consideration. The general queries in regard to palpitation, heart irregularities, shortness of breath, weakness, dizziness, faintness, and pain, if answered positively, require detailed elaboration to be of any significance. Palpitation may mean anything from a recognition at times on the part of an individual that he has a heart beating within him to paroxysmal tachycardia or auricular fibrillation. Everyone is "short of breath" after sufficiently violent exertion, and it is of essential importance to determine whether it is of normal or abnormal extent. "Smothering attacks" of the neurotic type should be differentiated from paroxysmal dyspnoea and orthopnoea. Weakness is a matter of individual expression and can be evaluated only by careful inquiry. Dizziness, faintness or actual fainting may vary from the slight disturbance of the neurotic and dyspeptic to attacks of grand mal or Stokes Adams Syndrome. Pain is perhaps the most difficult symptom to properly evaluate. Its position, character, intensity and radiation, its association with other symptoms and its dependence upon certain possible exciting causes, such as exercise, position of body, meals and mental excitement should form the subject of careful inquiry. Other examples could be given, but these are sufficient to emphasize that in the attempted early diagnosis of cardiac conditions an elaborate and detailed inquiry into certain points, those particularly relevent to the matter in hand, is more important than a superficial catalogue of general symptomatology.

Physical Diagnosis. The general physical examination in suspected heart disease should be of the rigid systematic type, with special emphasis on certain features. Eye reflexes and extraocular movements are of especial importance in reference to the presence or absence of thyroid disease and these are to be followed by examination of the thyroid gland itself and tests for tremors and quadriceps weakness. The number of early hyperthyroid cases, both of the exophthalmic and toxic adenoma types who first seek medical advice because of suspected heart disease is very large, and the neglect of a certain unrecognized percentage of these cases who are diagnosed and treated incorrectly as cardiac cases is an unfortunate incident. It will be well to state briefly here the common cardio-vascular symptoms and signs of early hyperthyroidism. Rapid, unstable heart action, associated with one or more of the following; excessive sinus arrhythmia, extrasystolic arrhythmia, paroxysmal tachycardia, paroxysmal auricular flutter and auricular fibrillation. Reduced peripheral resistance in the circulation associated with low diastolic pressure, high pulse pressure, capillary pulse, collapsing radial pulse and frequently the pistol shoe sign. These two sets of factors together are largely responsible for the palpitation, cardiac distress, peripheral throbbing and probably also the vasomotor instability and physical weakness: symptoms so frequently leading to the first medical consultation in hyperthyroidism. Systolic murmurs, usually basal, maximum in the 2nd left interspace and with little transmission, but occasional apical and simulating the mitral systolic murmur, are very frequent. Evidence of slight cardiac enlargement, particularly of the left ventricles, may be evident to percussion or to x-ray examination. The type of cardiac condition which the early thyroid heart most simulates is the so-called neurocirculatory asthenia, effort syndrome or disordered action of the heart (D. A. H.) Points of differentiation are the usual absence of arrhythmias other than sinus arrhythnia in D. A. H. and the tremendous variation in this condition in the pulse rate, depending on posture and muscular exercise. The heart rate in D. A. H. may be normal or even sub-normal in the prone position, reaching excessive rates on standing or after slight exercise. Evidence of peripheral vasodilation are often encountered in D. A. H. as well as in hyperthroidism. Determination of the basal metabolic rate may be necessary in doubtful cases.

The usual routine physical examination should be concluded in order to detect (1) possible indirect evidence of cardiovascular disease, (2) the exclusion or inclusion of associated disease other than

cardio-vascular. Special cardio vascular physical examination may be considered according to the following scheme:

1. Determination of the size and contour of the organ
   - Inspection
   - Percussion of deep cardiac dullness
   - X-ray methods
2. Modifications in cardio-vascular dynamics
   - Murmurs
   - Aortic and pulmonic second sounds
   - Peripheral vascular signs
3. Relation in physiological muscular balance and the integrity of the automatic and conduction systems.

Determination of the size and contour of the organ represents the most important single procedure in cardiac diagnosis. If we were in position to detect with perfect accuracy the departure from the normal in this respect, we could with our present knowledge of cardiodynamics, determine the presence and estimate the extent of every cardiac abnormality except those specificially affecting the automatic and conductive system. The heart is composed almost exclusively of actively functioning tissue. Its function is purely mechanical. Any change in its load results in change in the mechanical demands made upon it. The active tissue, as other muscle, increases in mass with increasing mechanical demands. If we can know the departure from the normal or physiological average of each cardiac chamber, we can infer the underlying mechanical disturbance responsible for the change. If the mechanical disturbance has not been sufficient to produce this change, provided that compensation is maintained, it can be ignored from the clinical standpoint. A heart which has suffered no additional mechanical load than that encountered in the average normal life, has undergone only these changes in size and shape which are to be regarded within normal limits. A heart which has suffered greater demands due to disease meets these demands by increase of functional mass, and the event is marked indelibly upon it by departure from the normal or average in size and contour.

Extensive studies made by a number of anatomists and clinicians have shown that it is possible to constitute within certain limits a physiological normal for the heart size and shape, and this gives a basis for determination of departure from this in disease. The most extensive data that we have in this connection is available from the studies of Bardeen[1], who has shown the relationship between the projection of the frontal plane of the heart and the body weight, height, age and sex of the normal individual. This projection can be obtained approximately by percussion but more accurately by special x-ray methods. Further elaboration leads, as we shall see, to a study of contour and development in planes other than the frontal, only possible by x-ray methods and unfortunately impossible by percussion.

Location of the apex beat by inspection or palpation is of value. Taking as the apex beat the furthermost out and down region of pulsation, it should normally lie, in the adult, in the fifth interspace slightly within the midclavicular line. It is usually higher in children. It may occasionally be in the sixth interspace and still within normal limits in long narrow chested individuals. In individuals with thin chest walls, with a small amount of overlying lung and especially with a small antero-posterior chest diameter, the heart may be close to the anterior chest wall and the pulsation may extend several centimeters outside of the midclavicular line. Finally, in a few cases the normal heart may be unusually placed to the right or left, leading to unusual position of the apex beat. The apex beat, while frequently giving a clue to cardiac enlargement, should be properly evaluated as it may lead to erroneous conclusions.

Accurate percussion of the frontal projection of the cardiac contour is the most important of the ordinary methods of physical diagnosis as applied to the determination of early cardiac lesions, and should be assidiously cultivated by one desiring proficiency in this field of diagnosis. Constant efforts, preferably controlled and corrected by comparison with similar determinations made by the more accurate x-ray methods is the price of proficiency. The left cardiac border is difficult to define because we are attempting to outline a solid body lying beneath a variable thickness of air bearing tissue. The right border presents the same difficulty with the additional complexity introduced by the nearness of the sternum. The upper and lower borders, necessary to complete the area

[1]Bardeen, C. R.: The Amer. Jour. of Roentgenology, Dec., 1917.

of projection in the frontal plane, can be completed only by inference from the position and contour of the right and left borders. The results of percussion can be recorded in a number of ways. The two most useful methods are measurements in each interspace from the second to the fifth or sixth to the right and left of the mid sternal line, or the transference of the outline of percussion area to a diagram.

Practical x-ray methods to determine the area, shape and dimensions of the projection of the frontal plane of the heart are the distant x-ray plate or teleroentgenogram and the method of orthodiascopy. Both of these methods are designed to reduce or prevent the distortion that occurs in the ordinary x-ray method due to the spreading of the rays from the target. The distortion in an ordinary x-ray plate or fluoroscopic examination is increased by increase in distance between the object examined and the plate or fluoroscopic screen and by decrease in distance between the tube and the object. In the teleroentgenogram the object or heart is brought as close as possible to the plate and the tube placed at a distance. The working distance is usually two meters between target and plate. A simple mathematical relation shows that the distortion in area of the object under these conditions is approximately six per cent. In orthodiography, means are adopted to use only the central or incident ray proceeding from the target of the tube and to shift the tube so as to bring this ray successively along points at the border of the organ. By marking its projection on the fluoroscopic screen there is obtained an undistorted and true projection of the organ outline. This may be done by arranging the tube and screen to shift together, and by having a mark on the screen in the path of the incident ray, or by placing cross wires in front of and attached to the tube box in the position of the incident ray; the position of this ray thus being made evident on the stationary screen.

Most of the data in regard to cardiac size and contour that we have is in reference to the frontal plane projection. Bardeen has obtained extensive data on normal hearts at different ages and body size which gives the average normal area of the cardiac contour and the greatest transverse diameter for given ages, height and weight. The area of the frontal projection is readily and quickly determined by the use of a planimeter and by reference to the table compared with the average normal.

Determination of the contour and area of the frontal plane projection is most valuable in relation to certain cardiac conditions. Perhaps the greatest importance attaches to the question of the significance of systolic murmurs. A systolic murmur may be (1) extracardiac, (2) accidental, and of unknown significance, (3) due to relative mitral regurgitation as a result of dilation of the mitral ring; the so-called functional regurgitation, (4) due to disease of the mitral valve with regurgitation, the organic murmur, (5) aortic stenosis, (6) pulmonic stenosis, (7) patent ductus arteriosis. We need not consider relative nor organic tricuspid regurgitation, the first because it occurs only in advanced heart disease, the last because of its extreme rarity. In the first two cases, unless other abnormalities are present, one expects no change in contour or area of the frontal plane; in other words, since the heart is normal mechanically its various chambers are of normal dimensions. Dilitation of the mitral ring with relative regurgitation is due to loss of tonus in the left ventricle, associated with myocardial change. The total area of the projection is increased, due mainly to change in the left contour. In its most typical form, there is obtained the socalled shoe shaped heart with rather wide displacement outward of the apex, with little or no enlargement to the right or above. In an organic lesion of the mitral valve leading to regurgitation, the primary result is a rise of pressure in the venous side of the pulmonary circuit and a hypertrophy of the right ventricle to overcome the increased resistance. The left ventricle also has an increased load to bear due to the loss of blood from its chamber in systole as a result of the incompetent mitral orifices. The result is an enlargement of both ventricles but mainly the right. There results an increase in area of the frontal projection with tendency to symmetrical enlargement, leading to the so-called triangular shaped heart. In aortic stenosis, the increased mechanical load falls on the left ventricle, leading to unilateral enlargement to even a more pronounced degree than that met with in relative mitral regurgitation. Finally in pulmonic stenosis, the load and subsequent hypertrophy is similar but affects the right instead of the left ventricle.

Efforts to determine with greater refinement and accuracy the development of different cardiac

chambers have led to elaboration of x-ray methods with examinations in planes other than the frontal and special methods designed to gain some conception of the posterior contour of the organ. These methods have been of particular advantage in two directions, to determine hypertrophy of the left auricle in relation especially to mitral stenosis, and of the development of the left ventricle posteriorly in relation to early left ventricular myocarditis and aortic lesions. In the frontal plane projection the left auricle forms by the tip of its appendage only a small area of the upper contour of the left side lying between the left ventricular contour and the pulmonic arch. Abnormal development or dilation of the left auricle can be detected in many cases by careful determination of the length and convexity of this contour in the frontal plane. It is possible in the fluoroscope to mark the junction of the left ventricular and left auricular contour on the left side by observing the time of the pulsation, since one is systolic, the other presystolic. More accurate information is obtainable by a cardiac outline made in the lateral or left posterior oblique planes. Under these circumstances the posterior contour of the organ in its upper part is composed of left auricle. Normally a clear space is present between the upper posterior contour and the shadow of the spinal column. With increased development of the left auricle, this clear retrocardiac space is encroached upon or obliterated. The lower half of the posterior contour in these positions is formed by the left ventricle and enlargement posteriorly of this chamber results in a reduction or obliteration of the lower half of the retrocardiac space. A special method of interest to estimate the development of the left ventricle posteriorly has been devised by Bordet. It consists in determining the distortion of the left contour in the frontal plane by shifting the tube a known distance laterally. The extent of this distortion with fixed distance of the tube and screen will vary with the antero-posterior dimensions of the heart. Most of the left ventricle lies posteriorly and it is possible to obtain evidence of slight enlargement of this chamber by this method when the frontal area of projection is still within normal limits. The same method can be applied to the right auricle on the right frontal plane contour, but has less practical significance. The most important usefulness of these methods is the determination of the left auricular enlargement in mitral stenosis and slight grades of left ventricular hypertrophy in early left ventricular myocarditis and aortic lesions. In early mitral stenosis, so long as compensation is maintained by auricular hypertrophy alone, the frontal projection plane as determined by percussion of x-ray methods may be normal or even subnormal in area. It is true that in a few cases the enlargement of the left auricle can be inferred by an extension of dullness in the third left interspace or by a change in the x-ray contour in this region, but the change in early cases is rarely demonstrable. In early myocarditis definite etiology may be absent, symptomatology uncertain or even misleading, murmurs or auscultatory changes in heart sounds absent and the hypertrophy insufficient to increase the frontal plane contour beyond perhaps the upper limits of normal. Here the determination of the ventricular development in depth and a study of its anterior and posterior contour in the lateral positions are of considerable assistance.

It is customary to divide murmurs that one may hear over the region of the heart into (1) extracardiac, (2) accidental, (3) functional and (4) organic. The extracardiac murmurs are comparatively rare and may be systolic or diastolic. So-called accidental murmurs, the term meaning nothing more than a lack of understanding of their cause, are very common and in the great majority of cases are systolic in time. Functional murmurs comprise mainly the systolic murmur of relative mitral regurgitation in left ventricular myocarditis, the systolic murmur of tricuspid insufficiency in failure of the right ventricle and the diastolic pulmonic or Graham Steele murmur in dilation of the pulmonic ring. The most common organic murmurs met with are the systolic murmurs of mitral regurgitation, the diastolic and presystolic murmurs of mitral stenosis and aortic regurgitation and finally the systolic murmur of aortic stenosis and aortitis. The presence of a murmur is always significant, but it may be said that never alone can the determination of a murmur constitute a diagnosis. The scope of this paper will not allow a discussion of the acoustic characteristics, the usual regions of maximum intensity and of transmission, and the influence of body position, respiration and muscular activity on the various types of murmurs, which are of assistance in determining their origin and significance,

but I do wish to emphasize the fact that even the most careful study and description of murmurs, which should never be neglected, will not lead, in all cases, to a determination of their significance. Any one with considerable experience has heard diastolic murmurs of extracardiac origin closely simulating the murmur of aortic regurgitation, and the uncertainty and frequently misleading influence of systolic murmurs has been called attention to many times by many writers. The systolic murmur with a certain acoustic characteristic, with a certain position of maximum intensity and a certain transmission is far more likely to be functional or organic than another of a different type, but the rule is not absolute.

A point of very great importance in early cardiac diagnosis is the pulmonic second sound. Accentuation of this sound indicates a high tension in the arterial side of the lesser circulation and occurs especially in mitral regurgitation and mitral stenosis. It is of particular importance as a help in the determination of the significance of systolic murmurs. It should be remembered that accentuation of the pulmonic second sound occurs in various lung conditions and finally that in the more extreme grades of hypertension in the lesser circulation the pulmonic ring may dilate with softening or disappearance of the sound made by the valve closure.

Studies of the peripheral circulation should never be neglected in cardiac diagnosis. The most important single study is that of arterial pressure and in some cases this alone is the first clue to the correct diagnosis. Comparative palpation of the two radials and brachials should always be done. Determination of the presence or absence of the socalled capillary pulse by the application of a microscope slide to the mucous membrane of the lip and the presence or absence of the auscultory sound over the femoral artery, the sign of Duroziez, should form a part of every cardiac examination. The degree of stability of cardiac action in change of position, the influence of brief exercise and of respiration on the control of the heart rate and rhythm through the extrinsic cardiac nerves are other points to be noted. There are certain facts of especial interest which I should like to mention briefly at this place. The association of low diastolic pressure with a normal, subnormal or slightly increased systolic pressure, unstable rate control, capillary pulse, pistol shoe sign, systolic murmur maximum in the second or third left interspace and with restricted transmission is, as we have seen, an exceedingly common complex in Graves disease and in the group of cases classed as effort syndrome, neurocirculatory asthenia or irritable heart action. Particularly confusing is the occasional case of mitral stenosis combined with low peripheral vasomotor tone and the complex described above. These cases are frequently erroneously diagnosed as aortic regurgitation and this is not surprising in view of the fact that they present what is usually regarded as the classical picture of this disease. Resort to accurate determination of cardiac size and contour is necessary to constitute the correct differential diagnosis. In one case the frontal contour may be normal or even subnormal in area while there is definite evidence of left auricular enlargement. In the other case there is a normal left auricular contour and left ventricular hypertrophy, demonstrable usually in the frontal projection, and confirmed by a study of the posterior contour and the development of the left ventricle in depth.

Early in the application of galvanometric determination in the study of heart disease, Einthoven found that different types of organic heart disease which disturbed the normal muscle balance between the two sides of the heart, changed the type of the R complex of the electrocardiogram in certain leads. Two general groups have been recognized since this time, namely a progressive increase in the height of the R wave in the three leads, from lead I to lead III, and the reverse, with an increase in the S wave in lead III. The former change occurs in those conditions involving preponderant hypertrophy of the right ventricle, particularly organic mitral disease, the latter in conditions involving left ventricular hypertrophy, especially aortic disease and left ventricular myocarditis. If the R complex of the electrocardiogram is normally a delicate balance of the functional relationship of the two ventricles and their conductive systems, and altered by slight disturbance of this normal relationship, it would evidently be of the utmost value in detecting slight hypertrophy of the different chambers and through this fact a most important aid in diagnosis. Unfortunately, subsequent observations have failed to confirm this simple relationship between the form of the electrocardiogram and unusual development of any chamber of the heart. It is beyond the scope of this paper to

go into this matter in detail. The most recent extensive work on the subject, that of Herrmann and Wilson[2], in which the form of the electrocardiogram during life was compared with the relative development of the two ventricles after death as determined by gravimetric comparisons with the normal heart, leads to the general conclusion that the relative weight of the two ventricles is only one of several factors which influence the form of the ventricular complex of the electrocardiogram. Other and perhaps more potent factors are variations in the position of the heart, the arrangement of the conduction system and disturbance in intraventricular conduction. While much more work is necessary to put this matter on a satisfactory basis, it seems to me that the evidence so far accumulated points to a definite value of the electrocardiogram in this connection. It is apparently still true that normal hearts under usual conditions rarely if ever depart from the socalled normal relationship of the R complex in the three leads. While many exceptions occur, signs of right ventricular preponderance are usually found associated with mitral disease and of left ventricular preponderance with left ventricular hypertrophy secondary to aortic disease, hypertension or myocarditis. The electrocardiogram would seem to have the usual relative valne of many methods applied to diagnosis; it is by no means an infallible guide but in connection with other findings may be of considerable value in leading to or tending to substantiate a correct diagnosis. Its possible value should never be ignored in any case when there is any doubt in regard to the diagnosis. In addition to the importance of the electrocardiogram in respect to ventricular preponderance, it is of value of course in determining the nature of associated arrhythmias and conduction disturbances. In most cases the arrhythmias are readily classified by the ordinary methods of examination, but disturbances in the conduction system are usually undemonstrable by other means than the electrocardiogram. Two cases that I have recently examined have impressed me particularly in this connection. One case was a double mitral lesion with definite delay in auriculo-ventricular conduction, indicating an extension of the pathological process to some part of the conduction system and increasing the gravity of the prognosis. The other was an obscure case which by all methods of examination other than the electrocardiogram failed to show any abnormality. The electrocardiogram revealed bundle branch block, which so far as we know is practically always of leutic origin. In a number of cases the presence of signs of right ventricular preponderance has helped materially in the differential diagnosis between mitral stenosis and aortic regurgitation which may, as we have seen, be impossible by the ordinary methods of examination.

I have tried in this paper to give, necessarily somewhat superficially, what I regard as the more essential points in early diagnosis of the more common types of chronic heart disease. I have attempted to emphasize first the importance of careful evaluation of etiology and symptomatology, second, the necessity of a general systematic routine physical examination, third the importance of accurate percussion, fourth, the value of a comprehensive x-ray examination in doubtful cases, and finally the significance of the electrocardiogram in diagnosis. The most generally neglected of the aids to diagnosis, I believe, is the x-ray. It is the one method which gives us, imperfect as it is at present, the most accurate knowledge of the form and contour of the organ, the type of information which I have tried to show is of most value in leading to a correct diagnosis. We do not hesitate to carry out a comprehensive x-ray study of gastrointestinal cases, and yet the information obtained has usually a less direct bearing upon the underlying pathology than in heart disease.

[2]Herrmann, J. R., & Wilson, F. N.: Heart, 1922, IX, 91.

PNEUMOPERITONEUM AS AN AID IN THE DIAGNOSIS OF SUBDIAPHRAGMATIC CONDITIONS.

Attention is called by L. R. Sante, St. Louis (*Journal A. M. A.*, Feb. 17, 1923), to the use of pneumoperitoneum in the examination of acute infectious involvement of the subphrenic space. Very little air is necessary in the examination of this region, and, if inflation is carried on with the patient in a recumbent position under the fluoroscope, any involvement of this space can be at once detected, and the inflation discontinued. If the procedure is carried out in this fashion, there need be little fear of breaking any existing adhesion walling off an infectious process, no matter how delicate or recently formed. Information gained in this manner, either establishes the presence of a subdiaphragmatic abscess or excluding its possibility, is of the utmost value in the prognosis and treatment of the condition. This is especially true since the accepted method of surgical procedure for drainage of such abscesses is very extensive and necessarily involves vital structures. A case in point is reported.

EXTRACTS FROM LETTERS OF DR. JAMES A. EVANS, PARIS, FRANCE.

December 6th, 1922.

"Have just come in from a little hole in the wall, an American restaurant with a darkey for waiter. He says he is from Yale, but if you ask him what work he did there he'll tell you he shined shoes.

"The other night we were asked out, together with the other field service men and their wives, to General (and Senator) Taufflieu's. His wife is a Gatlin of New York. They have a magnificent home in Neuilly, and it was Thanksgiving Day. There were butlers who spoke English and butlers who spoke French and footmen in livery; and handsome, in country Alsatian costume, the gentle senator himself, a native of Alsace. One of the ambulance sections was under his command during the early part of the war. Madame had charge of a hospital and both of them were covered with decorations, and she with a magnificent rope of pearls to boot. The General couldn't go pumpkin pie at all. After dinner one of the fellows played the organ which the General had taken out of a Chateau six kilometers behind the front in a home evacuated just before the Germans' advance. We all sang old army songs and things like 'Old Black Joe'. I think it made Madame a little homesick.

"One of the ambulance fellows here is an interesting chap, working in agriculture on the chromosomes in wheat. He met the French girl he is married to in the provinces during the war; came back to France in 1920 as a common seaman on a United States shipping board freighter, was wrecked in the North Sea off the coast of Holland, was fifteen days in France and married this girl, went with her to Hawaii where he worked on a pineapple plantation as foreman, trying to run his men without a lash as most of them do. Had a son born there, then he returned to California. While there he got his scholarship over here. Now he is living with his French 'in-laws' in a little apartment in Montmartre. His wife is perfectly charming.

"Yesterday afternoon we were invited to tea at the 'hôtel' of Baron Pichon where, besides other notables, was present Mr. Herrick, the American ambassador. The hôtel of the Baron is the only hôtel of a nobleman still standing from the days of Louis XIV and is in a perfect state of preservatin. It is situated on the Quai d'Anjou on the Isle St. Louis, overlooking the Seine. It is perfectly gorgeous; the most marvelous Gobelin tapestries of the Indian series and the gilded salons and boudoirs and a music room of that period. Champagne was enjoyed by all. Don't the French make fun of America's 'regime sec' ! * * *

"I am attending a most excellent course of lectures at the Faculté de Medecine by Lardennois, a young rising Parisian surgeon, on surgical diseases of the intestinal tract. Today's lecture was on chronic obstruction of the duodenum. While there is much rather hit-and-miss literature on the subject 'mechanical faults in the digestive tract,' I know in the medical school and during my internship I heard very little on the subject.

"But the French recognize the importance of such lesions in a general way better than we do I think, and they have whole monographs and chapters in text books devoted to the subject. I shall try to give you a resume of the lecture this afternoon as best I can, as I didn't take notes until after the middle of the lecture when I realized what a classic he was delivering.

"First, he emphasizes the great and so far unrecognized importance of chronic interference with the transit of food in the duodenum.

I. Causes.
   1. Duodenal ulcer with retraction, adhesions, etc.
   2. Chronic cholecystitis with adhesions.
   3. Chronic appendicitis, by
      a. reflex spasms; or
      b. by ascending lymphangitis giving rise to a peri-duodenitis where the mesenteric ileum passes up to the third portion of the duodenum;
      c. by giving rise to a chronic inflammatory process of the omentum which may cause adhesions.
   4. Chronic inflammatory processes in the lesser peritoneal cavity, causing a hooking up of the duodenum behind and above the lesser curvature. This may lead to a mistake in diagnosis in the X-ray of a niche of Haudek or ulcer of the lesser curvature. I remember a case well of a young man we had last winter with dyspeptic symptoms, chiefly aerophagy, and a history of jaundice, a patient of Mac's, in whom I demonstrated in the X-ray such a course of duodenum by Einhorn's tube. We made a diagnosis of

omental adhesions, secondary to a chronic cholecystitis we thought most probable, and advised surgery, which you remember he refused.

5. Adhesions from the colon mesentery to the jejunal junction, as the former passes over the latter.
6. Compression by the superior mesenteric artery in platic individuals.
7. He didn't mention the anomalous membranes between the edge of the liver, the gall bladder and colon, often congenital, so well described by Taylor in the Annals of Surgery last year.

II. Symptomatology:

Chronic course with exacerbations in crises; loss of weight; chronic dyspepsia; patient's awareness of food still in stomach at time of next meal; marked anorexia in contra-distinction to usual ulcer history; great frequency of nausea especially in the morning when still fasting; bilious vomiting; dragging pain in epigastrium without relation to meals, and feeling of a bar across the epigastrim; relief from pain often in recumbent position, or with knees drawn up; some cases have low febrile temperature in the morning.

III. Clinical Diagnosis:

1. Gastralgia: tenderness over solar plexus, marked pain in epigastrium, almost constant.
2. Gall bladder symptoms: duodenal stasis and dilatation often causes gall bladder stasis by pressure on bile duct with marked distension of gall bladder with more or less typical gall bladder colics.

   Otherwise, however, the duodenal stasis may lead to an ascending duct infection and a real cholecystitis.
3. Condition simulating chronic appendicitis. Not surprising when a chronic appendicitis is often at the bottoom of the trouble. Appendix should never be taken out without a look at the upper right quadrant.
4. Gastric neurosis, so-called, often has this condition as the basis for symptoms.
5. Form simulating picture of t. b. with loss of weight and congestion at pulmonary basis.

IV. Diagnosis:

Made by careful X-ray studies utilizing standing, prone and lateral positions by thoroughly competent radiologists. Signs seen are:

1. Dilation of duodenum.
2. Stasis in duodenum or stomach.
3. Duodenal deformity.
4. Hyperperistalsis in duodenum.
5. Antiperistalsis in duodenum, sometimes forcing barium back into stomach.

V. Treatment:

1. Medical; prevent the patient from growing thin. Often difficult with a marked anorexia present. Rest, diet; corset support rarely of value.
2. Surgical; disengage adhesions and cover raw surfaces. It may be necessary to do a duodenal-jejunostomy, or a gastroenterostomy as well as duodenal-jejunostomy may be found necessary.

   Wonder if you remember our old lady with gall bladder symptoms in 318 in whom you found the gall bladder practically normal but who was relieved by operation from symptoms for the first time in years? You didn't expect relief after the operation. I'll bet she comes back again.

"Last night I heard a very interesting lecture on Pasteur and the effect of his work on civilization." Dec. 19th, 1922:

"The man who operates the telephone exchange at the American Hospital is a Prince Demitroff something, a cousin of the Romanoffs, and it is quite a thrill to ask him to get a number for you. Poor fellow, with the most threadbare clothes, speaks seven languages, cordial manners, and penniless I suppose. * * *

"There are six of us American Medical students here in Paris getting together to organize a medical society to help each other out, help newcomers and do a little propaganda in the A. M. A. Journal and on the bulletin boards of medical schools at home. Dr. O'Brien is president and I have been made secretary.*

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*AMERICAN MEDICAL SOCIETY OF PARIS
for Studens and Graduates
c/o AMERICAN UNIVERSITY UNION, 1 Rue de Fleurus, Paris, France.
Secretary in U. S. A. - - - - Dr. Daniel M. Stiefel, Massachusets General Hospital, Boston.

PATRONS.

M. BERARD, Ministre de L'Instruction Publique.

LE PROFESSEUR ROGER, Doyen de la Faculte de Medicine.

LE PROFESSEUR HARTMANN, President de L'Association Pour le Developement des Relations Medicales entre Les

We have cut out an awful job for ourselves, but with Vienna and Berlin in their fix, Paris is going to be the great medical center on the continent. Personally, however, I doubt very much if Paris will ever be the place Berlin and Vienna have been. The sceptre is passing to America—has passed already in everybody's opinion over here in things medical. Even experts say there is more to be got today in New York than in Europe.

"Europe is wrecked, I think—the worst of it is their morale is sapped. But what America needs is more homogeneity and a few great leaders, a firm guiding hand in foreign politics so that we can afford to assume the burden of white civilization without being duped by the greed of European diplomats. There is not a doubt white civilization needs America to preserve it, but an America properly led by great men who cannot be tricked. I think America hangs off because she is afraid to trust herself in European councils, and she is right in hanging off unless she can trust her leaders—leaders who might be honest but who just aren't clever enough to outwit the ever-present machinations of old-world diplomats. I believe civilization is really and truly at stake and quite imminently so. * * *

"O'Brien is quite a wonder, a Yale man, then Johns Hopkins, Phipps' House, Labrador expedition, and now doing research work on anaphylaxis with Widal. He is very quiet and unassuming, evidently possessed of the knack of making powerful friends wherever he goes, does excellent work, and is headed for the top rung if anybody is. Widal's Chief of Clinic has asked him to go on an airplane trip to Morocco this Christmas. * * *

"I think I shall leave the Hôtel Dieu this January. While I have seen much excellent work there, it is not exactly what I expected. There is comparatively little gastroenterology; it is rather, general medicine. A great deal of pulmonary work and quite a lot of neurology, which latter I have been pretty glad to get. Considerable X-ray work, too, and have got a couple of valuable hints in plastic work. But Gilbert is old and not much of an inspiration any more.

"Have also got some fine ideas on liver diseases, always a hodgepodge in my mind before, but on this subject Gilbert has spent his life.

"I may go to St. Antoine under Bensande, a wonderful roentgenologist and able with the oesophagoscope in a way which I swear would make Chevalier Jackson sit up and take notice. Two Americans with him last year, or the year before, did some great work on gastric lues, and I would like to see if I can't do something in the way of diagnosis of obscure gall bladder diseases.

"Also, I have another fine offer from Widal's Clinic and could doubtless work on the problem there—especially modifications in biliary excretions during hemoclassic shock in relation to hepatic insufficiency in chronic cholecystitis; also with the duodenal tube in place, work out a technique for the discovery of periduodenal adhesions. This technique would include colonic inflation with air, a trick they use over here to outline the border of the liver and discover a distended gall bladder, and which often works as well as pneumo-peritoneum.

"The way I feel about the Hôtel Dieu is that it has been chiefly valuable in the mass of clinical material I have had a chance to see and work on. At present there are a couple of English-speaking boys in a class down there and I take them away from Gilbert occasionally and try a little teaching of my own on them and I find it a wonderful practice. Nothing like trying to teach to just find out your own gaps in knowledge.

"This morning we spent two hours carefully going over and analyzing the history and then examining a woman with an aortitis, a barely discoverable aortic regurgitation and a crossed hemaplegia (Gutler-Millard syndrome) and a chronic nephritis, but a negative Wassermann; spinal fluid not yet obtained."

Pays Allies et Amis.

AMERICAN UNIVERSITY UNION.

AMERICAN HOSPITAL OF PARIS.

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AN OPERATION FOR INGROWING TOE NAILS.

The operation described by GROVER C. NEY, Baltimore (*Journal A. M. A.*, Feb. 10, 1923), is performed solely on the soft parts, and the nail is not disturbed. In seventy-five cases, there has been no recurrence. It is a flap operation which is painless, and the patients do not suffer postoperatively.

INSULIN TREATMENT OF DIABETES.

BY WILLIAM THALHIMER, M. D.,
COLUMBIA HOSPITAL,
MILWAUKEE.

Insulin,* given hypodermically causes the body to metabolize an increased amount of carbohydrate. Since all carbohydrates, (starches, sugars, etc.), are converted immediately into glucose in the body, it follows that insulin causes an increase in the utilization, or "burning," of glucose in the body.

Diabetics have a decreased ability to utilize, or "burn," glucose, i. e., a diminished *tolerance* for glucose. Therefore on an average diet, glucose increases in the blood of a diabetic, and if this reaches the amount of .19%, sugar appears in the urine.

Since "fats burn in the body only in the fire caused by the burning of glucose," in severe diabetics, where only a small amount of glucose is burned, the fats are incompletely oxidized, so that acetone, diacetic acid, and oxybutyric acid accumulate in the body and cause acidosis, which when severe leads to coma and death. Therefore whatever increases the combustion of glucose in the body, increases the combustion of acetone, diacetic acid, etc.; and in diabetics causes a number of consequences, such as, fall in blood sugar, disappearance of glycosuria, disappearance of acidosis and of coma.

It is manifest that if insulin causes a diabetic to "burn" more glucose, then carbohydrates, and fats and protein as well, can be increased in his diet. These foods are utilized with the aid of insulin in a *normal manner* and the diabetic gains in strength and weight. He behaves as a normal person, loses his tremendous thirst and excessive appetite, and patients, even in the stage of coma, rapidly assume in a few weeks the appearance of health and the ability to return to work.

It is proper to ask now "what is insulin, how is it prepared, and how does it act?"

Insulin was discovered by Banting and Best and is a substance which they believe is present in the animal body (human, beef, sheep, hog, fish, etc.), only in the *islands* of Langerhaus of the pancreas (hence the names insulin and iletin). This discovery of insulin is the most important which modern medicine has contributed in many years, and is the brilliant result achieved by Banting and Best, who had the genius logically to think out and complete this remarkable work. The discovery of insulin was not an accident, for many researches had *indicated* the possible relationship of the pancreas, and a pancreatic harmone, to diabetes. It was known for many years that the removal of the pancreas from a dog caused experimental diabetes. It was also known that following the ligation of the pancreatic duct, all of the secreting portion of the pancreas atrophied, but the islands of Langerhaus persisted and experimental diabetes did not develop. When, however, the fibrous remains of the pancreas containing the islands of Langerhaus were removed, then experimental diabetes appeared in the dog. Numerous attempts were made by many investigators to extract a hormone from the pancreas which would control diabetes, but all these attempts were failures, because toxic, tryptic containing extracts were the only ones which were obtained. It remained for Banting and Best, with full knowledge of the many failures of others, to discover the active principle of the pancreas, which controls carbohydrate metabolism, and they, with the help of their collaborators, have developed insulin to a practical stage where it is used clinically with success and with safety.

The *exact* manner of the preparation of insulin has not yet been divulged by its discoverers. It is prepared from animal pancreas, by a special process which removes all protein and ferments and results in a watery clear, alcoholic solution of insulin.

Insulin must be administered hypodermically or intravenously, but the latter method is only used in cases of coma. Insulin does not produce any effect when administered by mouth as it is evidently destroyed by digestion, just as adrenalin is. Administrated by rectum, nose instillation, etc., etc., is also unsuccessful.

Following a hypodermic injection of insulin a rapid fall in blood sugar occurs. This fall in blood sugar may be extreme if the dose of insulin is too large, and peculiar symptoms then develop, such as excessive weakness, great hunger, a feeling of trembling, sweating, and even convulsions. So insulin must be carefully used, and the doses carefully balanced against the diet if these reactions

*Iletin is the preparation of insulin which we have used. This is furnished by Eli Lilly and Co. who have succeeded in the very difficult task of manufacturing this successfully, and who in the beginning supplied Iletin gratis for clinical investigation.

are to be prevented. Convulsions occur in animals when, after an injection of insulin, the blood sugar is reduced to about .045% (i. e., to one-half to one-third the normal amount). It was found by Banting and Best that giving glucose by mouth or hypodermically causes the animal's convulsions to disappear in a *few minutes,* the blood sugar and the animal's condition returning to normal. These reactions when they accidentally occur in patients are also relieved by feeding a small amount of carbohydrate.

Iletin has been standardized, so its potency is known and is determined in *units.* Each unit will cause the body to burn an additional 2½ grams of glucose. Doses are therefore figured in units. The treatments are given hypodermically, about one-half hour before meals, and severe diabetics require from two to three injections a day, comprising in all from about 30 to 40 units. This varies with the severity of the diabetes and with the diet. Even with insulin, diets should not be made unlimited, although they can be much increased. It must be remembered that many mild diabetics can be controlled by diet alone. Sustenance diets of the type described by Newburgh and Marsh, or by Woodgatt, should be used for these cases, and insulin reserved for those diabetics who cannot be kept sugar free and in good condition by diet.

One hears criticism that diabetics will not submit to three hypodermics of insulin a day. The answer to this is that thousands of diabetics, over the entire county, are today so much benefitted by insulin that they are not only submitting to these injections, but many are administering the injections to themselves.

The exact *mechanism* of the physiological action of insulin is not any further understood than is indicated above, but this is being studied by many investigators and already suggestive explanations are offered. It is known that insulin acts for only a few hours, from four to eight, and to obtain its continuous effect, injections must be made daily. The diabetic is converted into a normal as long as insulin therapy is continued.

Woodyatt has expressed this very graphically by saying, "Now, by means of insulin, we can take carbohydrate tolerance from an animal and inject this tolerance for carbohydrates into a human being suffering from diabetes."

We have had the opportunity of treating a number of diabetics with insulin (iletin). The good results have been remarkable, and have occured with mathematical precision. A given dose of insulin always produces a given result. This has been the experience everywhere.

CASES.

(1) A woman, 33 yrs. old, severe diabetic for 1½ years, lost 25 lbs., unable to become sugar free except on a very low diet, containing not more than 25 grams of carbohydrate, 35 grams protein and 80 grams fat. Only sugar free once, for a few days, and never acetone free. Blood sugar .33%.

Treated with insulin for the last four months, 10 units hypodermically ½ hour before each meal. Diet is now 1800 calories, blood sugar .17%, no glycosuria or acetone. Gain in weight 25 lbs., feels and acts perfectly well.

(2) A man, 35 yrs. old, severe diabetic, whom we could not get sugar free. He was weak and pale, lost 30 lbs. in weight, duration of diabetes about 6 months.

Treated with insulin, 40 units a day, divided in three doses, and given hypodermically before meals. He gained a pound a day after treatment was begun, and in four weeks his weight increased from 123 lbs. to 140 lbs. He is sugar and acetone free, diet is 2200 calories, and he is back at work.

(3) A woman, age 40, severe diabetic, whom we could not get sugar free on diet alone. Marked acidosis present. Treatment consisted of 35 units of insulin, hypodermically, in three doses before meals. Glycosuria disappeared in 18 hours, acidosis disappeared in 4 days, diet is now 1900 calories.

(4) This case was a child who entered the hospital with "flu" and developed a lobular pneumonia which caused her death (confirmed at autopsy). This child, age 12, weight 40 lbs., entered the hospital in extreme acidosis with air hunger. The air hunger disappeared after one injection of insulin. Acetone disappeared from the urine in 18 hours. In this case insulin was injected frequently, but with careful supervision. One dose was omitted at midnight of the second day of treatment and coma promptly developed. Two doses of insulin caused the child to come out of the coma, and remain acetone free. The diabetes was completely controlled by insulin and

even after death from pneumonia the urine obtained at autopsy showed no sugar or acetone.

Other cases will be reported later. This report of the results obtained with insulin (iletin) at Columbia Hospital is made to add confirmation to the report of the results by Banting and Best, and their collaborators, and to those being obtained in many other clinics.

TORSION OF UTERINE ADNEXA BEFORE PUBERTY.

Morris Cohen, New York (*Journal A. M. A.*, Feb. 10, 1923), reports the case of a girl, aged 13, who was seized suddenly with sharp pain in the right lower quadrant of the abdomen. This pain soon became generalized, but on the second day the pain became localized in the right lower quadrant and very severe. A diagnosis of acute appendicitis was made, and an immediate operation was performed. When the peritoneal cavity was opened there was a flow of a moderate amount of serosanguineous fluid. In the lower angle of the incision, there appeared a large, bluish black, sausage-shaped mass. It was delivered without difficulty. It was an ovarian tumor, twisted on its pedicle, and it included the right fallopian tube and mesosalpinx. The pedicle was untwisted, and both tube and ovary were removed *en masse*. Torsion in this case was clockwise. The appendix was pale, except at the tip, which was acutely inflamed.

ACUTE BARBITAL (VERONAL) POISONING.

Acute barbital poisoning, in the absence of a history may easily be mistaken for a number of other diseases giving rise to comatose states. This is especially true of epidemic (lethargic) encephalitis and certain cases of meningovascular syphilis. The case reported by William Cole, Anaheim, Calif. (*Journal A. M. A.*, Feb. 10, 1923), illustrates most of the salient features in the symptomatology. A man, aged 39, married, was admitted to the hospital in a state of profound coma. Search of the patient's effects revealed a box containing twenty 5-grain (0.3 gm.) tablets of barbital, and a note to his wife expressing his intention of committing suicide. Four weeks prior to admission, he consulted a physician on account of insomnia, and the latter prescribed barbital, 5 grains, to be taken at bedtime. He took one tablet each night for a week. At the end of the week, he had the prescription refilled, and he took two tablets each night for another week. It was estimated that the patient had taken more than 300 grains (20 gm.) of barbital in a period of less than four weeks, 175 grains ((11.6 gm.) of which was taken four or five days preceding admission. On admission, the usual conditions giving rise to coma had to be considered; namely, cerebral hemorrhage, alcohol and drug poisoning, epidemic encephalitis, carbon monoxid poisoning, brain tumors, diabetic coma, cerebral syphilis uremia and unrecognized brain injury. Blood and serologic tests ruled out syphilis and carbon monoxid poisoning. Urinalysis and blood sugar examination excluded diabetes. The previous history of good health and freedom from bad habits practically excluded brain tumor, alcoholism and kidney disease. The history and physical examination eliminated trauma. Carbon monoxid poisoning seemed a plausible explanation for the symptoms at the time of admission, but a more detailed history and the negative blood examination vetoed this opinion. Epidemic encephalitis was simulated very closely; but the definite history of ingestion of large amounts of barbital, together with the extreme degree of coma, which is not the rule in epidemic encephalitis, led to a definite diagnosis of barbital poisoning. The patient died. Cole says that this case is the only one reported in recent American medical literature in which there was a fatal outcome.

A SKIN CANCER FOLLOWING EXPOSURE TO RADIUM.

The case of a patient who worked with roentgen rays in his practice from 1905 to 1917, but not since then, is reported by Ward J. MacNeal and George S. Willis, New York (*Journal A. M. A.*, Feb. 17, 1923). Precautions for self-protection were carefully employed. From 1912 to June, 1920, he handled radium, without precautions for self-protection, in small amounts up to 1915, but in quite large amounts from 1915 to 1920, from 200 to 365 mg. in individual tubes, taken between the right thumb and forefinger almost every day. Various changes, which may be ascribed to the exposure to radium, began to be observed late in 1918, and since early in 1920 the skin changes have required constant care. In September, 1922, a fissure on the ball of the right thumb manifested a peculiar and extremely painful alteration in character, and on excision in October this lesion proved to be a squamous-cell carcinoma.

CHRONIC OBSTRUCTIVE JAUNDICE (NONCALCULOUS)

All patients suffering from chronic obstructive jaundice William A. Downes, New York (*Journal A. M. A.*, Feb. 10, 1923), says should be operated on, as surgery offers the only hope of relief. Internal drainage of the bile ducts is preferable to external drainage, just as it is desirable, when possible, to anastomose around inoperable growths in the intestine in order to avoid the formation of an artificial anus. The slightly greater risk involved in anastomosing the gallbladder than in establishing simple drainage is more than offset by the increased comfort of the patient, plus the added advantage of retaining the biliary secretion. Besides, in the event of a cure by external drainage, a secondary operation is necessary in order to close the fistula. Downes has found it easier to unite the gallbladder to the stomach than to the duodenum, and, since the passage of bile through the stomach is harmless, he considers cholecystgastrostomy the operation of choice.

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EDITORIALS

JENNER CENTENNIAL.

THE April issue of The Crusader of the Wisconsin Anti-Tuberculosis Association is a Jenner Centennial number, and has more than ordinary interest for the medical profession. While compiled primarily for lay readers and for special use as a schoolroom text, few physicians who begin to read it will lay it down unfinished.

There are many complimentary references to the physician. We cite but one. Referring to the financial sacrifices Jenner made in not commercializing his discovery, the Crusader says: "Medical history is full of instances of similar service. The least the public can do is to know something of the great contributions which have been made and to do belated honor to their benefactors."

The Jenner number is a fitting companion to the Pasteur number issued a few months ago. They constitute part of a publication program of the Tuberculosis Association designed to bring Social Medicine into the teaching of history and civics in the common schools of the state. This is a laudable ambition which, if it succeeds, cannot but affect favorably the physicians of the state. It would seem as if self interest—if nothing more—dictates that we should help the association to find a large audience.

MEDICAL FREEDOM.

THE physicians of this state face the fact that active propaganda is going on all the time to discredit them with the public. The many advertising cults reach the public through the press and the press in a measure is influenced by advertising revenue. These various cults are organized into a conspiracy to break down the laws protecting the public health against quacks and to insure themselves "medical freedom" to practice fraud and deceit on the gullible.

A case in point came up in the Supreme Court recently where a man had received a fall injuring the brain. He was treated by one of the advertising gentry for a misplaced vertebra until he had spent his modest fortune and then was advised to go west. He then resorted to a regular practitioner when it was found he had tumor of the brain which might have been easily removed if taken in time but which had developed beyond the operative stage.

Another case in the same court was that of a farmer who had cancer which the Mayo's pronounced incurable. The patient through advertising matter was induced to visit a "cancer doctor." Here he was induced to put up $250 in cash and give a note for $1750 before treatment. He was kept at the "cancer hospital" paying board where he died in a short time and the note was filed against his estate. These are but samples of the kind of "medical freedom" which is being practiced on the public by men wholly unqualified either in medicine or surgery.

Marvelous cures are advertised and no doubt some cures are effected when the patient's ailment is largely mental. On the whole the public is mulcted of millions and incalcuable harm is done to those suffering from diseases that are curable by proper treatment. These dangerous cults are promoted not only by skilled advertising but by organizations well financed. At every session of the legislature they keep a well paid lobby which is backed by every member of the organization in securing letters to members of the legislature from their constituents which give them a political influence far beyond their numbers.

The regular practitioners dislike to resort to these methods. The result is that farmer members of the legislature vote for legislation to allow incompetent people to practice on human beings when they would not think of allowing men of so little education to treat a cow or a hog. Workmen who understand that a plumber, a carpenter or other craftsman must serve a long apprenticeship may vote to give a man without professional education or experience the right to treat the delicate organs of the human body for pay and secure patients by fraud.

What is the remedy? We should make our organization more effective to deal with this subject in a practical way. Our members should become better acquainted with their members of the legislature and should furnish these members with moral and political backing that will help them serve the public instead of the quacks. It is not enough to find fault with the legislature. The members are usually honest and well meaning but may be misled.

The regular practitioners have the numbers, the ability, and the influence to maintain their professional standing if they will only give the matter the serious attention it deserves and in so doing they may render a great public service.

"THE BEST SHALL SERVE THE STATE."

IN this issue we publish an advertisment of the Wisconsin Civil Service Commission calling for physicians to enter state institutional service. Applicants for these positions must be residents of the state according to the published conditions.

This provincial attitude, established years ago, does no credit to professional service in Wisconsin public institutions. However gratifying such restrictions may be to laborers and tradesmen, they offer an affront to medical men of qualifications and mettle that we should have in our state hospitals and sanatoria.

Medical men have taken pride in the fact that their science is not provincial; that its ideals and scope are not even limited by national boundries. We do not believe that the Civil Service Commission need safeguard Wisconsin physicians from competition of qualified men from any other state or foreign country.

Let us of the medical profession be the first to advocate that within the limits proscribed by salary limitations, the best available alienists be secured for our mental disease hospitals, the best obtainable phthisotherapists be employed in our tuberculosis sanatoria, and that the best qualified physicians be secured for the other state institutions where they are needed

"The best shall serve the state" says the Commission. In selecting those who are to care for the unfortunate of the state, sick in body or in mind, should this standard be qualified by the words of the advertisement "must be residents of Wisconsin"?

THE PHYSICIAN AND THE PEOPLE*

RAY LYMAN WILBUR, M. D.,

PRESIDENT-ELECT, AMERICAN MEDICAL ASSOCIATION,

SAN FRANCISCO

I am deeply impressed with your interest, your enthusiasm, and your earnestness. I believe that you scarcely realize the importance of your position at the present time in this country. You have reported here the movements that are in progress which seem to influence, more or less, the development of the profession in certain directions.

Do you realize that we are arousing interest among the educated laity by increasing our educational standards and by furnishing good instruction along biologic lines in our public schools? Many laymen are appreciative of things medical, and they will be more and more interested as time goes on: it is inevitable. For that reason, you men have a responsibility in guiding the medical

*Extemporaneous remarks made before the Annual Conference of Secretaries of Constituent State Medical Associations.

profession, in your various states, so that these laymen who are becoming interested may be further instructed.

A physician is a funny sort of fellow. When he enters the profession, he puts on what the people call a cloak of professional ethics. He looks on the public in a rather patronizing manner, and, while the people love him, they have no clear idea of what he is about to do in many of the things he undertakes. He is susceptible to attacks by the cults. Everything he does to fight them is looked upon as selfish. There are constant changes in medical practice. There is a myth that in China the Chinese physician keeps his patient well and gets payment during that period, but he gets nothing when the patient is sick. As medical men, we have to care for persons during illness, when they have no income unless it comes from bonds or stored up capital. Economically, we are in a strange position. We have to live on the reserves built up by people or upon their future ability to build up reserves, because we care for them when they are not earning, economically. We are confronted by public and economic problems in a unique and unusual way. Educationally, we are able to link ourselves with the great changes that are coming with a clearer and better understanding of hygiene and a better appreciation of what hygiene and public health can do in any community.

There has been considerable discussion at this conference concerning health expositions and their success. They are the timekeepers of progress. The public has taken and is taking great interest in them.

I have been impressed by the fact that we have not put into practice many of the things that we have attempted to impress upon women. They are the best friends of the medical profession. They are the ones with whom we work to a large extent; they have a profound influence upon children and upon the home. They are the physician's best friends and those whom it is most easy for him to guide. They ought to be brought into our organizations. We are sometimes inclined to look on women lightly and to say that as wives they are angels, first, because they are always up in the air; second because they are always harping about something, and third, because they never have anything to wear. There are many of us, I am afraid, who still hold this somewhat patronizing view of the gentler sex; but I tell you they are strong safeguards in the development of the profession of medicine. They need our help. They need practical education from us. If we direct them during the period when their babies are young, and encourage them to look to us for guidance, they will look to us all the way through. We must enlist their support now as they become active, voting citizens. They still look to us as guides in public affairs. If we can educate by the right kind of leadership, we need not fear about other things.

The practice of medicine has changed with the success of our various health measures. Skill in early diagnosis is the most important thing now in medicine, particularly when combined with the ability to guide people in the right direction after early diagnosis has been made. The old days of medical practice have passed. A new conception has arisen. The physician has to be the guide. He must be familiar with diet and many other things, or he will not succeed. Let us recognize and realize that bringing the laboratory and scientific medicine into the life of the physician has changed his practice. Let us remember that our increasing educational standards have changed the attitude of the community toward health problems; but let us remember also that the finest and most troublesome quality of the human animal is his credulity. We are all credulous. Often we believe some of the things that are advertised about remedies. As scientific men, we should be less credulous when somebody announces that he has found a panacea for everything.

The future of medicine in this country will depend on biologic training given in the schools of our communities. Young boys and girls obtain a conception of life from biology. When they have dissected animals, or when they have seen how the earthworm digests its food, how it reproduces, a curiosity is aroused, which is satisfied only by fact. We are all of us interested in life. Everybody, I take it, likes to go to the circus and see wild animals. You can make the human body just as interesting as the circus is.

See the superintendent of public instruction in your city about putting hygiene in the schools; have him look to you for guidance as to what books should be used. In other words, the message I am bringing to you is this: You have leadership, and should exercise it somewhat more broadly than

you have done. Our attention has been directed so far toward bringing the forces of the medical profession together. Let us, having brought these forces together, in a more or less satisfactory way, assume leadership in all directions in the communities in which we live. Let us extend our leadership and develop ourselves so that people may look to us for expert opinion and advice rather than to the prejudiced or to the quack or the charlatan.

AS OTHERS SEE US

REAL SCIENCE STICKS.

It will be Remembered When Coue is Forgotten.

Dr. Flexner, of the Rockefeller Institute, made a statement yesterday that will be remembered when Coueism and ten thousand other schemes for imaginary healing are forgotten. Dr. Flexner said that insulin, a remedy made of an extract from the pancreas, discovered by Dr. Banting, a young Canadian of no great experience, promises to conquer diabetes, a disease that has killed millions, and hitherto considered hopeless.

Slowly science makes its way,step by step, up the mountainside of knowledge. Vaccination conquered smallpox. One antitoxion conquers diphtheria, another typhoid. Discovery of the mosquito's germ-carrying villainy puts an end to yellow fever. And so progress goes on.

What science accomplishes *remains.*

Meanwhile imaginary cures provide excellent amusement for the minds of many, while they wait for real science to protect them.—Wisconsin News, Milwaukee.

MEDICAL FEES.

A physician protests against "inordinately high fees of specialists and consultants" and urges that medical men be so trained in college that, if, after graduation, they become specialists or consultants, "they will not hedge themselves about with barriers that make them unapproachable to persons of modest means."

The warning is timely. It has a direct bearing on the mental attitude of the sick and ailing which physicians and surgeons themselves have stressed—the faith in a cure or in relief. Many a poor person, obsessed with the notion that such a physician or surgeon could cure them, where others might fail, have approached the second choice, when financial limitations have denied the first, with faltering hope. We do not believe that statement at all exaggerated. It has come, a physician recently said, to the point where only the wealthy may command the services of the great specialists. Of this condition he says:

"The present state of affairs has often seemed to justify the charge that the practice of medicine, especially as exemplified by specialists and consultants, brings into sharp relief the unrestrained individualistic and commercial aspects of the medical service. Reform should be effected by the medical profession. Otherwise it should and it will come from other sources."—Times, Manitowoc.

COUNCIL PROCEEDINGS.

Following receipt of correspondence from Mr. Wheeler P. Bloodgood, civilian aide to the Secretary of War, the Council has unanimously voted to make the following recommendation to the members of the State Medical Society of Wisconsin:

"That the Council approves of the Citizen Military Training Camps and recommends that physicians in Wisconsin offer their services free to assist in the work of examining applicants and giving the anti-typhoid innoculation, for which serum is furnished."

A REPORT ON PNEUMOCOCCUS INOCULATION IN NEW YORK STATE INSTITUTIONS.

G. W. McCoy, and H. E. Hasseltine, Washington, D. C.; Augustus Wadsworth and Mary B. Kirkbride, Albany, N. Y. (*Journal A. M. A.*, Sept. 30, 1922), record the results of a study of the practical value of prophylactic inoculation against penumonia among the inmates of certain New York State institutions, a study which was conducted jointly by the Hygienic Laboratory of the United States Public Health Service and the Division of Laboratories and Research of the New York State Department of Health. While the results are far from satisfactory and do not permit drawing any definite conclusions, nevertheless, they do show that a relatively large number, if not proportionately an equal number, of cases of pneumonia developed after inoculation. Furthermore, they show the development, in the inoculated group of pneumonias incited by the three fixed types of pneumococcus used in the vaccine.

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I. MORPHOLOGY AND VIRULENCE OF BACILLUS DIPHTHERIAE.

BY W. D. STOVALL, M. D.

Doctor Stovall stated that formulae for the determination of the virulence of diphtheria bacilli were of great practical importance, although the scientific proofs for the same were not so absolute. It is well known that the clinical picture and the laboratory findings are commonly not in coincidence, and from a practical standpoint it is important to remember that clinical diphtheria may not always be membranous. The other organisms inducing exudative sore throats are streptococcus, staphylococcus, and pneumococcus. Vincent's Angina need not be considered in this relation since its organisms do not grow aerobicly.

From the standpoint of quarantine and the determination of the virulence of organisms in well carriers, some working plan simpler than that of animal inoculation has been deemed advisable for a long time. Two plans are ordinarily followed in this relation—that of Cobbett or that of Westbrook and McDaniels. In either case the existence of bands or beads constitutes an important differential point between the virulent forms and the solid or avirulent forms. The Westbrook classification is the one usually taught and he divides the organisms into three groups—beaded, banded and solid, and under the beaded form there are three virulent subdivisions—A, C and D—all other forms are less virulent.

Doctor Stovall stated that in the wavering period of the clinical case, when the organisms were disappearing from the culture, the morphologic change was quite apparent from the beaded to the solid forms. He quoted figures to prove that clinical cases maintained their virulence practically until the complete disappearance of organisms, even though this period be as long as two (2) months or more. Doctor Stovall discussed in detail Park's classification and then entered into a discussion of his own researches.

It was definitely proven from these studies that the staphylococcus will grow the diphtheria bacillus out of the culture and organisms of this coccal group decidedly alter the morphology of the diphtheria bacillus. In as high a dilution as 1/10 c.c. of staphylococcus suspension to 1 c.c. suspension of Bacillus diphtheriae, the later was reduced in size and its morphology became much more solid. On the other hand streptococci grow feebly with the diphtheria bacillus, and the latter may grow the former out of the culture. The Bacillus diphtheriae becomes much more beaded under these conditions of growth.

In conclusion Doctor Stovall stated that there had been no formula derived as to the virulence of the Bacillus diphtheriae from the morphologic characteristics and only animal inoculation could determine this factor finally. However, a trained microscopist may readily broadly group cultures on this basis without resorting to animal inoculation.

This paper was discussed by Drs. Bardeen, Van Valzah and Middleton.

II. THE IMPORTANCE OF PARASITOLOGY IN MEDICINE.

BY A. S. PEARSE, M. D.

In a very entertaining and interesting discussion Doctor Pearse emphasized the wide field of parasitology, stressing, at first, the possible parasitic conditions known to exist in this climate. The intestinal parasites—the hook worm, the dwarf tapeworm, the fish tapeworm, pin worm, and flagellates—were discussed in this relationship. The importance of insects, as flies, ticks and mosquitoes, in the transmission of disease was noted and typhus, cholera, bubonic plague, typhoid fever and Rocky Mountain fever were classed as important in this relationship. Doctor Pearse stated his belief that due to climatic conditions and improved cultivation malaria could never get a foot-hold in this climate, though the two essential elements for its spread might, at any given time, be found here, namely—the infected individual and the anopheles mosquito.

Doctor Pearse pointed out certain interesting foci of parasitic infestment in this country, namely —the filaria bancrofti in Charleston, South Caro-

lina, and the schistosomum japonicum on the western coast. Doctor Pearse prophesied that with agricultural development of the land and improved hygienic conditions malaria, round worm, tapeworm, hookworm and trichiniasis would decrease.

In conclusion Doctor Pearse pointed out the necessity for protection of the inhabitants of this country by a close supervision of emigrants from infested areas. He praised the success which had attended these efforts and furthermore pointed out that since in the tropics laid the chief hope for economic and commercial expansion, clearing up of the parasitic diseases in these zones was essential to our own well-being. Doctor Pearse was very laudatory of the efforts which had been put forth by the International Health Board and by such private concerns as the United Fruit Company, in these areas.

This paper was discussed by Doctor Stovall.

CLINICAL CASES REPORTED.

BY EDWARD EVANS, JR., M. D.,

FROM BESTON CITY HOSPITAL.

CASE I. Local medical man's diagnosis—appendicitis.

Boy, 9 years. Negative past history, except occasional colds. No T. B. history definitely obtained.

Present Illness. Sick 3 days. Onset without fever, but questionable chill. Pain over whole belly early settling in McBurney's. Vomiting increasing in frequency and severity. No appetite and vomits even water, and mucous and bile for past day. Bowels moved first day—two enemas a day with slight result. No blood. Temperature on admission 103.4. Pulse 120 plus. Respiration 26. Slight frequency $\frac{N\ 2}{D\ 5}$

Exam. Lungs essentially negative. Heart negative. Throat negative.

Abdomen distended. tympanitic, tender all over with slight spasm. Marked spasm and tenderness over McBurney's. Tympany outlines from R. L. Q. to L. U. Q. via R. U. Q. Mass felt in central abdomen. No peristalsis observed. Rectal negative other than tender both sides.

My admitting diagnosis: Acute obstruction following acute appendicitis with abscess.

Visiting Man: Obstruction and intussusception.

He asked me if I thought it could be that. I said "If due to some such mechanical difficulty (in view of absence of fever at onset) a volvulus because of his age."

Operation: Band obstructing near splenic flexure due to T. B. mesenteric gland.

CASE II. Patient walked into hospital with diagnosis from local M. D. of Bronchitis. Temperature 99.4.

Exam. Appearance: Rundown and thin. Dyspneic with slight cyanosis. Cough and expectoration.

Lung Inspection: Slight limitation of right side with spasm. Palpation; slight spasm right neck and over apex. Slight increased tactile fremitus.

Percussion: Slight dullness right apex.

Auscultation: No rales except on cough, when constant in right top front and back. Broncho-vesicular breathing at right top.

Did not consider dyspnea consistent with very slight signs in chest.

So I noticed an impulse in 2nd lt. interspace synchromous with pulse. Felt both pulses, left weaker than right. Very slight systolic murmur over the impulse. Percussion showed dullness over upper sternum and outward (slight) to right and left.

On inquiry into history, patient had specific infection 15 yrs. ago, and dyspnea on exertion for quite some time.

Admission Diagnosis: ? T. B. Rt. Apex; Aneurysm of Aortic Arch.

Diagnosis confirmed to date.

CASE III. Case admitted to floor. Local medical man's diagnosis: Acute Appendicitis.

Temperature 103.4 by axilla; Pulse 144; Respiration 36.

Age: 7, female.

History: Negative past history.

Patient complained of sore throat five days ago. Four days ago was playing around. That evening complained of pain in abdomen and vomited. Has vomited since and eaten almost nothing. Vomitus green lately. Has had fever. Local medical man called condition "indigestion" and treated as such until today.

P. Exam.: Lungs, negative; Heart, negative except rapid.

Abdomen: Sunken somewhat. Spasm all over easily broken down on left, but more resistant on right. Tumor mass felt in R. L. Q. with tenderness into right flank.

Asked the mother "Any nocturia" "No". — No symptoms of pyelitis.

Throat: Diphtheria, typical. Not diagnosed by L. M. D.

Then in view of abdomen I asked mother "Any diarrhea?" (thinking of diphtheritic colitis) "No, bowels moved once today though not much because eating so little."

Buttox: Reddened; no blood; mother says stools irritating.

I called resident surgeon, diagnosing "Diphtheria and Ruptured Appendix (on pulse) with Abscess" (on temperature and tumor). He agreed. Called Dr. Place of South Dept. Diagnosis: Same.

Assigned to service: Same diagnosis.

Visiting surgeon: Same diagnosis.

Rectal not done in view of age and already finding a mass.

Diagnosis — post-operative: Diphtheria plus Intestinal Intussusception of 18 inches small gut into caecum to splenic flexure. Appendix normal. 12 inches gangrenous gut resected.

Going over the case we can not see where we slipped up since bowels moved and people were intelligent and no mention made of blood and at her age our attention was not drawn to the right diagnosis although considering a colitis, but ruled out on no diarrhea.

I didn't do a rectal, but I didn't feel it necessary to subject a seven-year-old to that on having found a mass in abdomen at appendix side. Yet I probably would have gotten a bloody finger and made the diagnosis. Still "it's the duty as well as the privilege of the consultant to make a rectal examination."

PREVENTIVE MEDICINE

Edited by
W. D. STOVALL, Chairman
Section on Preventive Medicine, State Medical Society of Wisconsin

This Section is open to all members of the State Medical Society and others who wish to discuss subjects pertaining to Public Health. Original articles, and criticisms of statements appearing in this section are earnestly solicited. Questions concerning public health procedure will be answered. Address communications to Dr. W. D. Stovall, State Laboratory of Hygiene, Madison, Wis.

THE PRACTICAL ASPECTS OF THE CARE OF INFANTILE PARALYSIS AND OTHER CRIPPLING DEFORMITIES OF CHILDHOOD.

BY DR. CHESTER C. SCHNEIDER,

MILWAUKEE, WIS.

The deformities of childhood are legion. There are perhaps more deformed children under ten years of age than crippled veterans from the World War. The problem of rehabilitating the maimed, though enormous, is neither as great nor as hopeful as that of restoring the deformed to some measure of the opportunities of life. For over 35 years Orthopedic Surgery as a specialty has devoted itself to this task, and it is in tribute to the successful efforts of the pioneers and leaders of this work that we are able to hold out greater hope today than ever before to those unfortunates whose legacy is a physical defect.

It is my object at this time not only to delineate some of the important deformities of childhood which are amenable to Orthopedic care, but also to describe briefly the work of the State of Wisconsin in this field during the last two years. It is obviously desirable for the good of the individual, the community, and the state for the crippled of every social station to enjoy alike the opportunity for restorative care. The knowledge that work of this kind can be done and is being done every day in this state has not permeated all the masses where the service is most needed. Only through large organizations like the public health officers and district nurses can we hope to penetrate the depth of the various stata and ferret out the needy cases, bringing them to a new hope and the advantages of modern science.

The greatest cause of deformity in childhood is Infantile Paralysis or Anterior Poliomyelitis, that terrible scourge which leaves more helpless cripples in its wake than all the other maladies combined. While the last thirty years have witnessed an extraordinary decrease in the incidence of such infections as small pox and typhoid fever, the same period has seen Infantile Paralysis dev lop from a condition occurring sporadically, or at most in small groups of cases, to an epidemic scourge of world wide distribution. Recent experience, moreover, must inevitably lead to the belief that poliomyelitis either in endemic or epidemic form, will in all probability remain a grave menace until adequate methods of combating it are devised. At the present time there is no indication of any permanent disappearance of the disease, but on the contrary, a rather definite tendency toward its recurrence in epidemic form with more or less definite periodicity. From the point of view of the community, the comparatively high mortality of poliomyelitis is in reality of less importance than the economic and social problem involved in the cripples which result from it.

Of all the progress that has been made in the treatment of poliomyelitis, nowhere have the methods made such advance as in the treatment of the early stages, and this advance has consisted largely in stopping the former meddlesome therapeutics and in realizing that a hemorrhage and inflammation has occurred in the spinal cord, that the damage is done almost at once, and that the future outcome will depend upon two things and two things alone: (1) the extent and location of the damage, and (2) the judicious treatment of the patient, particularly in the early stages. At this time complete rest in bed and such therapeutic measures as the symptoms require are indicated. Drugs are of no value. The use of blood serum of recovered patients administered intravenously or intraspinally and the use of Rosenow's serum in the earliest possible stages cannot as yet be regarded as being of established usefulness. Electricity, massage and any attempt to move the

paralyzed limbs should be condemned at this stage. Paralyzed limbs should be supported by pillows or light apparatus so as to avoid stretching the weakened muscles. Great care should be taken to prevent the development of contractures or deformities. When tenderness is diminishing, generally from the second to fourth week, much comfort and apparent benefit are derived from immersing the patient in hot saline bath and allowing him to move his joints a little and change his position. During the convalescent stage, when pain and tenderness have entirely subsided, the three physical therapeutic measures which should be considered are electricity, massage, and muscle training or reeducation. Electricity has been much in vogue in the treatment of these cases, but beyond the mental influence upon the parents, there is no evidence to show that the routine measures employed are of any value whatever in increasing muscular strength. Massage improves the circulation, tends to keep up the muscle tone, probably diminishes atrophy, and is a measure of some value if properly given after tenderness has disappeared. Muscle training forms the basis of the modern treatment of poliomyelitis. In theory this consists of an attempt to make the patient send a voluntary impluse to contract a muscle and in aiding the muscle in contraction by passive movement by suspending the limb in such a position that gravity does not hinder the performance of the movement. The muscles that we wish to exercise are the paralyzed or weakened ones. If the exercises are not carefully determined and controlled, the patient is sure to use the strong muscles instead of the weak ones, to develop these and thus make the muscle balance still worse. Loosely given exercises by untrained persons and encouragement to keep the child around and do anything he can are likely to do harm rather than good. Weight bearing by one or both legs, with or without braces in the first year following infantile paralysis is risky and detrimental if practised to any considerable extent.

Deformity may occur in the early weeks and is a detrimental factor in preventing the recovery of muscles partly paralyzed, chiefly from stretching. It becomes a troublesome factor, especially in the third year and should be watched for and antagonized from the outset. The common and troublesome deformities are contractures at the hips causing the thighs to be bent forward, adduction contracture of muscles at the shoulder preventing the raising of the arm sideways, contractures at the knees maintaining them bent backward, shortening of the heel cord bending the foot downward, and curvature of the spine. As deformity is most often the result of the pull of unopposed muscles, its treatment consists of the retention of the limb in its normal position and in side elevation of the shoulder. The great majority of deformities can be prevented in this way.

When untreated, a case of infantile paralysis will almost invariably improve for one or two months at a rapid rate, then more slowly for two or three months more, and then after a stationary period, contractions, looseness of the joints and malpositions are likely to begin which may increase indefinitely. Under treatment the prognosis is much more favorable and the limit of possible improvement extended for many years. The need of the early detection of a faulty position of the spine and of the early care in the prevention of scoliosis cannot be too strongly stated. On account of the general muscular weakness and of the unequal pull of the trunk muscles, the asymmetrical method of walking and standing and the faulty superimposed weight, or the onesided use of the arms in cases of paralysis of the upper extremity, all motions on the part of the patient tend to exaggerate the development of deformity when once under way. For this reason, this form of curative of the spine presents a most obstinate type of treatment and as soon as there is any evidence of a beginning deformity of the spine every effort should be directed to check its development.

A distinct measure of success in the orthopedic treatment of infantile paralysis in the stage of deformity can be expected in a large percentage of cases exclusive of the hopeless class where a large portion of the body is permanently paralyzed. Even in such instances, apparently hopelessly deformed cripples have been restored to some measure of usefulness to themselves and others. The actual management of these cases from an orthopedic point of view encompasses a wide field of surgery and mechanics. Shortened ligaments and tendons are cut or lengthened, tendons are transplanted to maintain muscle balance at joints, bones are removed or remolded to correct deformity or aid body mechanics, powerful forces acting constantly and slowly through casts and turnscrews are employed to reverse the crippling forces

of nature and relieve deformity, frail joints are made rigid, and the entire body is reeducated in the use of its modified mechanics. Such treatment may require weeks or months for its completion, but in the end the results are usually commensurate with the effort. All these cases should be seen early by an Orthopedic Surgeon who should outline suitable exercises, design proper braces, and anticipate possible surgical measures.

Another disease characteristic of childhood, although not so grave in its general outlook as Infantile Paralysis, but nevertheless of great importance and frequency is Rickets. This affection occurs commonly during the first dentition and is a constitutional disease causing a local or general disturbance in the normal bone formation with the result that the affected bones become soft and plastic, growth is delayed and deformities of a more or less serious character arise. The disease is much more prevalent among the crowded poor of the cities than in the rural communities and certain races such as the Negro, Italian, and Portuguese are more subject to the affection than others. Faulty nutrition and improper hygienic conditions seem to be entirely responsible for its prevalence. If all infants and children could be given the benefit of proper nourishing food and plenty of fresh air and sunlight on the entire naked body, rickets would be a rare disease. Direct sunlight to the entire naked body cannot be overemphasized and all mothers should be educated to the importance of this fundamental measure. Bowlegs and knockknees can be entirely corrected with braces or surgery; curative of the spine, malformations of the chest, and flat feet can be considerably improved with suitable devices, particularly if proper measures for their relief are inaugurated early.

Another disease common in childhood, more obstinate to control and more destructive than rickets is tuberculosis of the bones and joints. This is one of the major problems of orthopedic surgery. Insidious in its outset, producing symptoms usually ascribed to some slight injury, it gradually progresses in its process of destruction until serious deformity develops and surgical aid is enlisted. The most common seats of this disease in the order of their importance are the spine, hip, knee, ankle, and elbow. Although sunshine, fresh air, good food and rest remain the sheet anchors in the treatment, surgery has added some refinements to these which make the prognosis more favorable, lessen the disability, and shorten the course of the process. Tuberculosis of the spine will always be regarded as one of the most formidable of diseases; its long course, the deformity entailed, the severity of the complications, and the occasional termination in death giving both to the surgeon and to the non-professional public a natural dread of the affection. These inferences are, however, drawn from the severer cases, and facts show that the disease has a tendency to recovery, that the deformity can be prevented, and that in few affections does the worth of the surgeon give greater benefit than in Pott's disease. We are therefore operating early in these cases, transplanting a shaft of bone from the leg directly into the spine, thus furnishing a rigid internal prop to the crumbling column of bones to check their collapse. This efficiently splints the back and shortens the duration of the treatment to a very considerable extent. Tuberculosis of the joints in children is still treated by conservative methods, operative attack being restricted to correction of deformity and the relief of complications. With proper immobilization, these lesions will usually resolve spontaneously resulting in a stiff but healed joint. Adequate bracing is usually necessary for several years after the apparent resolution of the process to avoid recurrence.

In addition to the already enumerated groups of major deformities of childhood, there are a great many other malformations acquired before or immediately after birth. These include the spastic paralysis of infancy, congenital dislocation of the hip, and club feet. Spastic paralysis or paraplegia is a condition usually due to injury at birth causing hemorrhage into the brain and overactivity of certain muscle groups eventually terminating in permanent deformity and practically complete disability. Frequently there is mental impairment as well, rendering a difficult situation hopeless. The deformities of Little's disease respond to the usual corrective methods used in Infantile Paralysis abetted by operations on the overactive nerves to diminish their excessive stimulation of the spastic muscle groups. With suitable muscle training after operative correction these cases are usually considerably improved. As for congenital dislocation of the hip, even in this enlightened age, it is not entirely a matter of common knowledge that through proper bloodless

manipulative methods the majority of these unfortunates can be restored to normal again. The most opportune time to reduce a congenitally dislocated hip is between the ages of 2 and 5. After seven the chances for reduction are very poor. All these hips should be brought to the attention of an orthopedic surgeon before the age of five. In congenital club foot deformity the problem of correction is somewhat different and in these cases corrective measures should be inaugurated as soon as possible after the birth of the child. This deformity never corrects itself spontaneously and becomes more obstinate of cure as the case grows older. Practically all of these cases, if seen in time, can be corrected by means of simple mechanical forces without the necessity of surgery. The function of the limb becomes essentially normal and no disability is evident. Neglected cases in older children and even adults can likewise be corrected, but more radical measures are necessary for their relief.

In the same vein, scores of other malformations and deformities of childhood might be mentioned but these are all too numerous and involved to enter dicussion here. It can, nevertheless, be said that most of them have been attacked by the orthopedic surgeon and are amenable to variable degrees of improvement under his supervision. Progress is steadily being made in this field and newer and more efficient methods of attack are being introduced. Through repeated and careful study of end results, methods are becoming more standardized and indications for treatment more clearly defined.

The correction of crippling deformities was undertaken by the state about two years ago at the Bradley Memorial Hospital. Twenty-two beds were set aside at this institution for the care of orthopedic cases and during the succeeding two years one hundred and twenty-two cases were admitted and treated. About half of these were children crippled from infantile paralysis some of whom had never walked since they were stricken with the disease. The other half has included about every other malady in the gamut of crippling entities. Most of these cases have been very definitely improved but in a few of the most hopeless ones, progress has been made only at a tremendous expenditure of time and energy. With the limited facilities at our disposal it has become more and more necessary to select our cases carefully to avoid stagnation. There are so many indigent cripples in the state who can be definitely improved in a relatively short period of time, that it would be unwise to surcharge the institution with practically hopeless cases which can never be completely rehabilitated. It is our desire to accomplish the most good for the most people and to keep constantly moving.

Great good can come from disseminating these facts to the masses. Only through enlightment and understanding can we hope to gain the confidence of these unfortunate cripples and their parents. The charlatans, quacks, and advertising so-called "specialists" who promise everything and do nothing must not be permitted to prey upon the ignorance and wretchedness of these poor souls. Only too many of them have been gouged of their scanty savings by these reprehensible vipers and then thrust upon the state for care and treatment. We must all unite in extending sympathetic aid to the crippled of the state so that the disadvantage of a deformed body may be mitigated to the highest degree.

PUBLIC HEALTH NEWS ITEMS.

If a nurses' training school is run in connection with a general hospital, a registered nurse must be employed as superintendent.

Miss R. Fern Chase resigned as social hygiene worker at Oshkosh after three years' service, to accept a position in Minneapolis.

Dr. A. H. Broche, health commission of Oshkosh, was appointed director of the state cooperative laboratory of hygiene in that city.

Dr. Jean M. Cooke, Darlington, was appointed to be lecturer in social hygiene for the State Board of Health for a limited time.

Use of basements for school rooms, if two feet or more below grade, is prohibited by law.

Any member of a local health board can, with the authority of the board, establish quarantine over premises where communicable disease exists.

Death certificates signed by a healer, not licensed as a physician, is not legal. It is not according to law to issue a burial permit until the cause of death has been verified by the health officer or a physician, and properly specified in the death certificate.

Following a death from probable tuberculosis, last attended by a chiropractor, a local health officer refused to sign the death certificate, stating that the physician who attended before the chiropractor was called in had refused to sign the certificate because the decedent was a patient of the chiropractor. A chiropractor is not authorized to sign death certificates. The undertaker accordingly was unable to obtain a death certificate as a requisite to burial. The coroner wired the State Board of Health for advice, and was told that any physician could sign the certificate, or that the local registrar could sign the cause of death from information given by the family.

A case of scarlet fever can be transported from one city to another if in a privately owned automobile and with the written consent of the health officers of the two cities.

There are no state board of health regulations concerning the manner of construction of hospitals, but the state building code provisions relative to hospital construction must be complied with. Plans and specifications must be approved by the Industrial Commission.

In a case of infantile paralysis it is required that the entire family be quarantined for three weeks from the time the case is reported, and until patient and premises have been thoroughly disinfected. Well children in the home can return to school after the quarantine is raised.

The State Board of Health ruled that a chiropractor may not come and go from his own home where a child is sick with diphtheria, but must be quarantined also. He may have the option, however, of leaving the home and taking up his residence elsewhere until the quarantine is lifted. This conforms with an opinion by the attorney general that a chiropractor is not a licensed physician and that if he goes to a quarantined home he must be treated the same as any other layman.

A school board has authority to require pupils in school suspected of having a venereal disease to be examined by a physician selected by the board. Treatment can be required until the disease is no longer communicable. Refusal to take such treatment is cause for commitment to an institution where treatment will be made compulsory.

Tuberculosis Sanatoria. The State Board of Control of Wisconsin is now getting out a weekly report, giving in detail the number of patients in the various state and county sanatoria, and the waiting list and number of entrances. This is to be had from the State Board of Control, Madison, Wisconsin. There are at the present writing 405 males, 352 females in the various state sanatoria. There are forty-six on the waiting list and there are one hundred vacancies. Some of the sanatoria are filled but some are not and this accounts for the vacancies.

Reports of Tuberculosis. Cook County, Illinois reported 52,656 cases of tuberculosis and 13,602 deaths for the past four fiscal years. Cook County with free dispensaries, hospitals and public health workers who have done intensive work in this disease are able to find nearly four cases to one death. The state of Illinois outside of Cook County has slightly more than an equal number of cases to deaths reported. Wisconsin has slightly less than an equal number of cases reported to deaths reported. What the above figures show to Wisconsin is that not enough cases are being reported in proportion to the deaths.

PROGRESS OF STATE LEGISLATION.

(As of May 10)

(For a fuller outline of these measures the reader is referred to the April issue, Pages 513-515).

No. 130-S, by Senator Benfey, the "basic science" bill, requiring additional educational qualifications for all who practice the healing art who are not licensed under state laws.

Substitute amendment offered April 26 by Senator Benfey, and bill re-referred to Committee on Education and Public Welfare.

N. 363-A, by Assemblyman Minier, creating a board of chiropractic examiners and licensing chiropractors.

Third amendment adopted, requiring members of board to file an oath with secretary of state, receipts to be paid into general fund, and any balance of $1,000 or more to the board's credit at the close of any fiscal year to revert to the common school fund. Bill passed Assembly May 3, ayes 72, noes 6. Pending in Senate.

No. 373-A, by Assemblyman Spoor, repealing the ante-nuptial physical examination law.

Passed by Assembly March 27. Killed by Senate April 27. Vote reconsidered May 3, and amendments offered: By Senator Schumann, requiring female applicants for marriage license to file an affidavit that she is free from venereal disease and the male applicant to submit to the present requirement; by Senator Skogmo, requir- each party to file a statement that he and she are free from venereal disease to the best of his or her knowledge. May 9, Schumann amendment adopted, 18 to 13, and Skogmo amendment rejected, 19 to 11. As amended, bill ordered to third reading in senate.

No. 396-A, by Assemblyman Peltier, requiring quarantine of all persons subjected to vaccination for smallpox.

Indefinitely postponed, March 28; ayes 40, noes 38.

No. 397-A, by Assemblyman Peltier, repealing the compulsory feature of vaccination law affecting school attendance.

Passed by Assembly March 28. Killed by Senate April 12; ayes 17, noes 12. Reconsideration refused.

No. 22-A, by Assemblyman Barker, making employment of county nurses optional. Passed by Assembly. Killed by Senate April 10.

No. 93-A, by Assemblyman Lindahl, that county nurses shall be paid out of the state board of health's appropriation.

Laid on table March 6; no subsequent action taken.

No. 424-A, by Assembly Committee on Public Welfare, requiring venereal disease examination of vagrants and treatment of cases found positive.

Substitute amendment offered without recommendation, May 3.

No. 425-A, by Assembly Committee on Public Welfare, prohibiting employment of persons with venereal or other communicable disease in eating places or other places where food is handled.

Passed by both houses.

No. 426-A, by Assembly Committee on Public Welfare, permitting qualified officers of the state board of health to file complaint against persons with venereal disease to compel their commitment to an institution for treatment.

Passed by both houses.

No. 139-S, by Senator Morris, the "state narcotic law," adding stringent regulations governing sale and administration of narcotic drugs.

With amendments, passed by both houses.

No. 80-S, by Senator Schumann, removing requirement that members of Board of Medical Examiners shall be appointed from ranks of various schools of medicine.

Passed by both houses and approved by Governor.

No. 260-S, by Senate Committee on Education and Public Welfare, creating position of state toxicologist at the university.

Pending in Committee on Judiciary.

No. 57-S, by Senator Barber, bringing pregnant women permitting abortion, and persons inducing or promising to pay another to perform such operation, under same penalties as apply to physicians performing abortions.

Passed by Senate; Killed by Assembly.

No. 210-S, by Senator Ridgway, opening state and county sanatoria to cases having tuberculosis symptoms needing careful diagnosis, etc.

Passed by both houses.

No. 109-S, by Senator Schumann, requiring tuberculin-testing of all cattle within next five years, prohibiting sale of non-tested cattle at auction, and other provisions.

Substitute amendment offered by Senator Schumann, April 25; referred to Committee on State Affairs.

No. 167-S, by Senator Severson, to permit physicians employed directly on behalf of patient to testify in civil cases concerning patient's phsical condition when such testimony is material, and to provide "that as a witness in his own behalf in any civil or criminal action against him based on alleged malpractice in his professional service for such patient he may disclose fully such information so far as the same is relevant and material to the issues."

Passed by Senate. Concurred in by Assembly May 8.

No. 86-S, by Senator Schumann, providing for licensing by waiver of all medical and osteopathic practitioners holding certificates of registration under chapter 87, laws of 1899.

Passed by both houses.

(The following legislative measures not listed in the April summary have received consideration as hereunto noted):

No. 308-S, by Senate Committee on Judiciary, adding to the venereal disease laws the following: "When a physician has reported a case of venereal disease to the state board of health in compliance with paragraph 4 of this section, all questions regarding the presence of the disease and the date from which the treatment was neglected shall not be regarded as privileged information when the patient or physician is called upon to testify as to the facts before any court of record."

Passed by Senate April 20. Pending in Assembly committee on Public Welfare.

No. 461-A, by Assemblyman Nein, La Crosse, requiring all hospitals organized as charitable or eleemosynary institutions to permit any regularly licensed physician or surgeon, authorized to practice in this state, to enjoy the benefits of such hospitals and to treat his patients therein, under penalty of $50 for each violation.

Indefinite postponement recommended by Committee on Public Welfare, May 3,

No. 462-A, by Assemblyman Nein, exempting hospitals from taxation only on condition that their rules and regulations "are reasonable and permit all duly licensed physicians and surgeons to practice therein."

Killed, March 20.

No. 330-S, by Joint Committee on Finance, appropriating funds received from the U. S. government for maternity and infant welfare work to the State Board of Health for purposes specified in the act. (Sheppard-Towner legislation.)

Passed by both houses and approved by Governor.

No. 237-A, by Assemblyman Price, Mauston, granting home rule to counties. (Under this measure counties would have the option of employing, removing, or creating the office of, county nurses, agricultural agents, assessors of income, etc.)

Passed by Assembly; advanced to third reading in Senate, May 2.

No. 171-S, by Senate Committee on Education and Public Welfare, permitting town boards on petition of a majority of property owners within any unincorporated area to establish a sanitary district for the purpose of installing common systems of water supply and sewerage. (This is intended to give summer resort properties the benefits of modern sanitary facilities.)

Passed by both houses.

No. 705-A, by Assembly Committee on Public Welfare, by request, to abolish the position of deputy state health officer and confer his duties upon local health officers.

Referred to Committee on Public Welfare.

No. 423-A, by Assembly Committee on Public Welfare, authorizing the prohibition of the use of insanitary buildings for human habitation in first and second class cities, under penalty of fine for each day's violation.

Passed by both houses.

No. 9-S. known as the Revisor's bill, codifying the laws of the State Board of Health, offered by Committee on Judiciary.

Pending in Committee on Education and Public Welfare.

No. 308-S, Recommended for passage, May 9.

No. 705-A, Recommended for indefinite postponement, May 9.

No. 618-A, by Assemblyman Peltier, requiring physicians' prescriptions to be written in the English language upon penalty of fine or imprisonment.

Killed, April 17.

No. 628-A, by Assemblyman Prescott, establishing a board of health in cities of the first class, to consist of seven members appointed by the mayor, the board to appoint the commissioner of health.

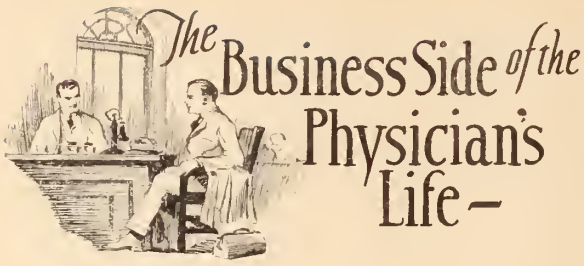
Killed, May 2.

No. 654-A, by Joint Committee on Finance, making biennial appropriations to State Board of Health.

Passed by both houses.

No. 679-A, by Assemblyman Holly, to require schools to instruct in symptoms of disease including the taking of temperature and pulse, and the proper care of the body.

Referred to Committee on Education.



What a grand and glorious thing is the annual housecleaning. Friend Wife begins getting restless—noticeably so—for a week or so in advance, just like you do perhaps the week before trout season opens. You know the symptoms. Business of looking up into the ceiling, corners and back of the davenport and muttering to herself that "its the dirtiest house in creation."

For your part, you can't see it at all. Looks just the same as it did all winter, and mighty comfortable at that. But that isn't going to make a particle of difference as you very well know, and a few days later you're going to take your meals off the ice box for a day or so, and the house will look like a cyclone had struck it. Friend Wife—well, you know, don't cross her tracks during this time. Its fatal.

Oh well, by this time its all over and come to think of it, the house does look different and better. Curtains have a fresh snappy look to them that they didn't have before. Floors shine with wax or new varnish. Walls look clean. Your favorite arm chair has been twisted into a new corner, a new lamp added here, and a change there. Its been worth while after all, and with the inconvenience over with, you're willing to admit it.

Did it ever occur to you that this spring housecleaning is plain good business, of a sort that we might do a little of ourselves. As a matter of fact, all well regulated business houses have a similar season, which they call inventory instead of housecleaning, but the effects are much the same.

It is the time for striking a balance of one's affairs, of getting off the routine schedule for a few days and putting one's house in order. Go into a store or wholesale house while the inventory is going on and see what is happening. The stock, in addition to being checked, is looked over to weed out the out of date numbers, the soiled and damaged goods. In the auditing department accounts are scrutinized with particular care, and the hopeless ones are relegated to the dead ledger. The record of each department is scrutinized and those department heads who haven't made the grade are spending a time on the well known carpet trying to square themselves.

The inventory is a business purge, just as is the housecleaning spasm, and its just about as annoying and unpopular to those who have to go through it.

I wonder how many physicians ever give their affairs a "spring housecleaning." Quite a few, probably, for doctors, particularly the younger men, are getting more and more systematic in the conduct of their business affairs, but the ratio as compared to business men is probably very low. Yet its one of the best things that a physician can possibly do.

Its always a good thing for any man to stop the daily routine for a while, stand off at a distance, so to speak, and try to get a detached view of where he's at, and where he's going. Its money in his pocket to do it.

Start with your ledger first and check up on the amount that is due you for professional services, or for anything else for that matter. Take each account by itself and put the question straight: "Am I ever going to collect that account?" You can answer that question with 95% accuracy if you'll be honest with yourself. Many a physician thinks with so much pride of his $8,000.00 practice that he forgets to remember that he only collects two-thirds of it. You'll never retire on your uncollected accounts, and if they are dead, write them off and stop deluding yourself.

Then check your liabilities. Tote up all the bills you owe, and if you've got the money pay them. If you haven't, arrange them in chronological order for payment. There's a reason of course why physicians have earned the reputation of being "poor pay". Its because they're poor collectors. There's an unavoidable sequence there. The man who can't or won't collect his account promptly can't pay his bills promptly. The percentage of honesty among physicians is just as high, or higher, than among any other class of men; the percentage of "dead beats" among physicians is as low or lower as among any other class. But for percentages in "slow payers" physicians have the reputation—perhaps not fairly—of winning by a mile. That may account for the fact

that they have to pay more for the things they use than they should.

Then check up your assets. Get down the tin box that holds the insurance policies, the farm mortgages, the Liberty Bonds, the industrial bonds, and perhaps—how sad that this will be so often true—the pretty little certificates in the oil well that never spouted a drop of oil, and the automobile company that got you all warmed up over the profits Henry Ford made out of a few dollar investment. Henry did, but you didn't. But still you hang onto those beautiful certificates and keep them snugly tucked away in the "strong box" where neither moth nor rust doth corrupt, and where thieves won't take the trouble to steal.

That little old strong box holds your future, and your families' welfare. Its worth looking into once a year and giving it the analytical eye. If the things that go into it are the right sort of things, an income is coming out of it some day that will let you "sit pretty" and enjoy life. Its going to send your son and daughter through college perhaps, provide a trip for yourself and wife to California, let you spend every winter in Florida, or do anything of the thousands of things that human beings think they want to do.

But the contents of that box need looking into and after at pretty regular intervals, no matter how good they may be. Don't be ashamed of the wild cats you may have. We all make mistakes. But don't keep them in there taking up good room, unless you think you need a little of the philosophy of a physician who asked his financial advisor recently whether he should destroy a certain certificate or keep it to remind him and perhaps his descendants that "there is one born every minute."

Have your investments checked over by an official of some good investment house. That official doesn't feel that his experience warrants his prescribing for himself when he has a fever, and you can hardly be expected to know when your lock box is operating 100%. Choose a reliable financial advisor, and depend on him just as you expect your patients to depend on you. And give him a good "case history." Put all your facts before him. He'll regard your business confidences just as sacredly as you do your professional knowledge about your patients.

It is a mistake to think that because a security is safe when it is purchased it will remain safe for ever after. The farm mortgage situation of the last few years is a sample of what can happen to our forefather's mainstay. But more than that, the maximum return from money invested can only come through wise and timely turnover, and you don't get that by throwing a security into your lock box and forgetting it.

You get three mighty good results from checking up your assets at regular intervals: First, you find out just what you have and are sure that your records are accurate; second, you check up on the value thereof; and third, it reminds you that once you had a plan and that it behooves you to keep that plan in mind and try to work it out, to the end thereof that you will someday know financial independance.

Verily, an annual housecleaning is good for other things than houses.

TUMORS OF THE BREAST.

William D. Haggard and Henry L. Douglass, Nashville, Tenn. (*Journal A. M. A.*, Feb. 17, 1923), have collected, from their clinic, for the eleven years ending Jan. 1, 1922, 255 histories of breast lesions. The findings in these 255 cases may be summarized thus: (1) No malignant tumor of the breast occurred in a woman under 27. (2) The average age of patients with cancer of the breast was 49.2 years. (3) In cases of recurrent carcioma, the patients were five years younger than in the primary cases. (4) All sarcomas occurred in males, and constituted 2.4 per cent. of the malignant cases. (5) In only one third of the malignant cases was there a family history of cancer. (6) In two thirds of the cases in which the lesions were benign, the patients gave a positive family history for cancer which probably caused them to apply for examination even though their lesions were benign. (7) The average duration of cancer before operation was twenty-six and one-half months. (8) One case in five was inoperable. (9) Patients with benign lesions had an average age of 36.1 years, which was thirteen years younger than in the malignant cases. (10) The average duration was fourteen months, as against twenty-six and eight-tenths months for carcinoma cases. (11) From five to ten year cures in 111 traced cases of operations for cancer of the breast occurred in 45.7 per cent. (12) The preventable surgical mortality was 0.8 per cent.

FIBROLIPOMA OF LEFT LABIUM MAJUS.

In the case reported by William R. Lovelace, Alburquerque, N. M. (*Journal A. M. A.*, Feb. 10, 1923), the tumor had attained such an enormous size that it hung down to the patient's knees like an apron. After its removal, the tumor weighed 44 pounds (20 kg.)

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The Wisconsin Medical Journal, Official Publication

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Winnebago	Ronald Rogers, Neenah	S. D. Greenwood, Neenah.
Wood	J. B. Vedder, Marshfield	W. G. Sexton, Marshfield

SOCIETY PROCEEDINGS

BROWN COUNTY

A joint meeting of the Brown county medical society and the Brown county bar association was held at Green Bay in April. A banquet preceded the meeting.

CHIPPEWA COUNTY

Dr. A. A. Pleyte, medical consultant of the Wisconsin Anti-Tuberculosis Association led the discussion at the meeting of the Chippewa County society, April 16th.

DANE COUNTY

A medical clinic day for doctors of the territory surrounding Madison will be held in May, it was decided at a meeting of the Dane County Medical society April 10th. Dr. Albert Tormey, president of the association, will arrange to have physicians and surgeons from outside the city assist at the clinic.

Dr. H. C. Johnson spoke on "Practical Nutrition for Children," at the meeting last night; Dr. Ira Sisk spoke on "Urography as a Diagnostic Aid," and Dr. William J. Bleckwenn discussed an unusual case of myelitis, a disease of the spinal column.

The second annual Clinic Day of the Dane County Medical Society was held on Wednesday, May 9th with the following program:

MEDICAL CLINICS.
(Jackson Clinic)

Symposium on Diseases of the Thyroid Gland.

Differential Diagnosis of Diseases of the Thyroid Gland (Illustrated), Dr. Arnold Jackson.

Relation of the Basal Metabolic Rate to Diseases of the Thyroid Gland, Dr. Harold Marsh.

Local Anesthesia in Goiter Surgery. Dr. R. T. Cooksey.

Treatment of Goiter in Pregnancy, Dr. C. S. Harper.

Demonstration—Ten Cases of Preoperative and Postoperative Thyroid Conditions, Dr. Arnold Jackson.

SYMPOSIUM OF DISEASEA OF THE STOMACH.
(Section of Urology)

Differential Diagnosis of Duodenal Ulcer, Dr. R. T. Cooksey.

Fluroscopic Demonstration and Demonstration of Gastric Lesions, Dr. Percy Brown.

Excision versus Gastro-enterostomy in the Treatment of Duodenal Ulcer, Dr. J. A. Jackson.

MEDICAL SYMPOSIUM.
(Physiotherapy Department)

Management of Posterior Positions of the Occiput, Dr. C. S. Harper.

Toxemias of Pregnancy, Dr. Austin Bates.

Prenatal Care of the Teeth, Dr. Clyde Modic.

Insulin in the Treatment of Diabetes, Dr. Harold Marsh.

Management of Cardiac Cases, Dr. Harold Marsh.

Demonstration of Cases, Dr. Harold Marsh.

SURGICAL CLINICS.
(Methodist Hospital)

Pelvic Laparotomy, Drs. J. A. Jackson and Austin Bates.

Gastro-enterostomy for Duodenal Ulcer, Drs. J. A. Jackson and R. T. Cooksey.

Thyroidectomy; Multiple Toxic Adenoma of Thyroid with Block Anesthesia, Drs. Reginald and Arnold Jackson.

Surgical Clinic, Dr. Reginald Jackson.

Ligation Right Superior Thyroid Artery, Drs. Reginald and Arnold Jackson.

Intra-uterine Radium Application, Drs. Reginald Jackson and C. S. Harper.

Surgical Clinic, Dr. J. A. Jackson.

EAR, NOSE, THROAT AND DENTAL CLINICS.
(Methodist Hospital)

Tonsillectomies: Sluder Technic, with Gas Analgesia and Local, Dr. W. M. Nesbit.

Demonstration of Removal of Foreign Bodies from the Trachea, Bronchus, and Esophagus, Dr. W. N. Nesbit.

Alveolectomy, Dr. Clyde Modie.

Luncheon at Madison Club for Visiting Doctors and Members of Jackson Clinic Staff.

DOUGLAS COUNTY

A paper on "Bone Diseases" by Dr. R. K. Lohmiller was presented at the April fourth meeting of the Douglas county medical society. A business meeting preceded the paper.

MARATHON COUNTY

Dr. I. M. Addleman has been elected president of the Marathon county society. Other officers of the society are:

Vice President, Dr. J. A. Jackson; Secretary and Treasurer, Dr. M. L. Jones; Censor, Dr. D. T. Jones; Delegate, Dr. F. H. Frey; Alternate Delegate, Dr. J. M. Freeman; Legislative Committee, Dr. I. M. Addleman, Dr. J. M. Freeman, and Dr. R. F. Fisher.

MARINETTE-FLORENCE COUNTY

The Marinette and Florence county Medical societies met April 9th at the residence of Dr. M. D. Bird, Marinette. Dr. H. E. Marsh of Jackson clinic, Madison, Wis., presented a paper on "Insulin," in the treatment of diabetes, and Dr. S. C. Mason of Menominee discussed "Phosthatic Index," Dr. W. Jones, also of Menominee, read a paper on "Otitis Media."

Twin City doctors were invited to a dinner with Dr. Marsh at the Hotel Marinette at 6 o'clock Monday evening, the affair being a "Dutch Treat."

MILWAUKEE ACADEMY OF MEDICINE

A joint meeting of the Neuro-psychiatric society of Milwaukee and the Milwaukee Academy of Medicine was held on Tuesday evening, April 24th with the following program.

1. Presentation of Cases, Specimens and interesting Roentgenograms.

2. Treatment of Neuro-Syphilis, N. Lionel Blitzsten, Chicago.

(Synopsis — Lumbar Puncture, Neuro-recidivous syphilis, Prophylaxis. Immunity, Hg. therapy, Salverson therapy, K. I. therapy, Lecithin therapy. Briefly intraspinous methods and especially fever therapy. Mixed vacines, Staphlococcus, Typhoid, Tuberculin, and malaria. Rational of fever therapy.)

Discussion opened by W. F. Lorenz, Director Wisconsin Psychiatric Institute, Madison.

3. Mongolian Idiocy. I. Harrison Punteer, Chicago.

Discussion opened by D. W. Roberts.

An excellent attendance was at the joint meeting.

A meeting of the Academy was held on May eighth at which Dr. George B. Eusterman gave an illustrated paper on Lesions of the Stomach simulating Cancer.

OUTAGAMIE-WINNEBAGO COUNTY

On April 17th, 1923, Outagamie and Winnebago Counties held a joint meeting at The Valley Inn, Neenah, Wisconsin. This was one of the largest medical meetings held in the Fox River Valley for some time and proved to be very valuable. After a banquet Dr. Joseph Miller, Professor of Medicine, Rush Medical College, Chicago, Illinois, discussed the subject "Non-Specific Therapy." The subject was very ably and clearly discussed, drawn from his personal experience very largely. A general discussion followed the paper. A rising vote of thinks was given Dr. Miller for the favor he had shown us.

At this meeting Outagamie County held no regular business session.

RACINE COUNTY

The Racine County Medical Society held its regular meeting April 27th,. 1923, in the Class Room of St. Mary's Hospital. Dr. Harold E. Marsh, Madison, gave a most interesting talk on "The Treatment of Diabetes Mellitus with Insulin." The attendance was fine.

ROCK COUNTY

Seventy-five physicians attended the monthly meeting of the Rock county society April 26. The meeting was held at Beloit and was devoted to a study of genito-urinary diseases discussed by Dr Harry Culver, Chicago. The next meeting will be held in Janesville.

CORRESPONDENCE

JOURNAL TRANSFERRED.

Milwaukee, Wis.

Oscar Lotz, M. D., Chairman. Pub. Com.,
Wells Building,
Milwaukee, Wisconsin.

My dear Dr. Lotz:

Enclosed you will find a copy of the audit made of the Wisconsin Medical Journal books from August 1, 1919 to April 1, 1923, the date upon which I relinquished the duties of Managing Editor. An outline of the auditor's report is as follows:

"Bank deposits were reconciled with the receipts as shown by the cash book.

Vouchers were found for all expenditures as shown by the cash book.

The cash balance as shown by the cash book was reconciled with the balance shown by the bank statement.

All receipts were regularly deposited in the bank and all expenditures were supported by approved vouchers.

The cash balance on August 1, 1919 was $117.57. There was deposited in the bank between the dates of August 1, 1919 and April 1, 1923, $33,350.84, making the total cash to be accounted for $33,468.41.

Disbursements made between the dates of August 1, 1919, and April 1, 1923, were $30,777.53, leaving a balance in the bank on April 1, 1923, of $2,690.88.

The cash accounts receivable amounting to $1099.56 were examined and found to be correct as shown by an attached schedule with the exception of a few disputed minor claims made by advertising clients.

The trade accounts receivable covering the period from January 1, 1910, the date upon which the Journal was taken over by the State Medical Society, to April 1, 1923, amount to $1140.34 as shown by an attached schedule, and since it is doubtful whether any of them are collectable, the auditor recommended that they be charged off. (Inasmuch as the members of the different publication committees and I, as Managing Editor, made strenuous efforts to have these trade accounts used up, I concur in the auditor's recommendation that they be charged off.)

The assets as of April 1, 1923, were as follows:

Cash in the bank	$2,690.88	
Cash accounts receivable	1,099.56	
Trade accounts receivable (which should be charged off)	1,140.34	
Merchandise	42.12	
Equipment	176.63	
Total assets		$5,149.53

The liabilities as of April 1, 1923, were as follows:

Cannon Printing Company (Printing)	$1,674.96
Cooperative Medical Advertising Bureau (Commissions on advertising contracts)	303.85

Meyer News Service Company (Clippings)	9.00	
J. P. McMahon (Salary and Commission)	248.28	
Advanced Credits on advertising contracts	37.00	
Total liabilities		2,273.09
Excess of assets over liabilities		$2,876.44

The total bank deposits made to the credit of the Wisconsin Medical Journal from February 1, 1910, to April 1, 1923, were approximately $78,100.00, part of which were made in the Merchants and Manufacturers Bank of Milwaukee, the Milwaukee National Bank, and the First Wisconsin National Bank.

Owing to a misunderstanding of instructions, commissions amounting to $29.52 for securing advertising contracts were entered on the books during February and March and were, therefore, included in the bills payable to J. P. McMahon on April 1, 1923. Inasmuch as it was my intention to discharge the duties of Managing Editor during February and March without compensation, with the exception of reimbursements for services of Bookkeeper and Stenographer, personal check for $29.52 is herewith enclosed as a reimbursement to the Journal for the above mentioned commissions.

Enclosed you will also find a Wisconsin Medical Journal check drawn to your order as Chairman of the Publication Committee calling for $2,690.88, being the cash balance in the bank as shown by our books as of April 1, 1923, and by the auditor's report as of the same date.

Please be advised that we have assembled the following check, records, equipment, merchandise and miscellaneous office effects which are ready to be transferred to Mr. J. G. Crownhart, the new Managing Editor:

Checks drawn to the Wisconsin Medical Journal and received after April 1, 1923, as follows: Marquette University School of Medicine, $36.00; Drs. Dwight & Davis, $27.00.

1 Filing Cabinet containing alphabetical filing envelopes, advertising contracts, auditor's reports, bills payable, and all correspondence which promises to be of future use.

1 Remington Standard No. 10 typewriter.

1 Typewriter ribbon book.

1 Card index filing case containing accounts receivable, etc.

1 Metal filing case containing receipted bills.

1 Metal filing case containing expired contracts.

1 Metal filing case containing bank statements, and pass books.

1 Protectograph.

1 Set rubber cushion typewriter keys.

Stationery.

Postage Stamps.

All permanent books of account and records accumulated since Jan. 1, 1910. All check stubs used since January 1, 1910.

All duplicate deposit slips used since January 1, 1910.

1 Webster's Dictionary.

1 Copy of the 1921 Directory of the American Medical Association.

1 Or more copies of each volume of the Journal from volume 1, number 1, to the March, 1923, issue, inclusive.

Miscellaneous effects such as, Medical Journal wrappers, carbon paper, rubber stamps, etc.

According to my best knowledge and belief, the foregoing constitute all of the property belonging to the Wisconsin Medical Journal now in my possession. I shall be pleased to deliver this property to my successor upon receipt.

Allow me to thank you for the cooperation accorded me during your five years tenure as Chairman of the Publication Committee.

For a month in 1909, I considered the suggestion that I accept the Managing Editorship before reluctantly deciding to undertake the work, believing that the duties would be laborious, inconvenient, and require time which could be used to better advantage in study and in clinical practice. This belief had been fully substantiated by the experience of the last twelve years. These experiences, particularly the frequently repeated necessity of doing the work after ordinary business hours, often lead me to regret that I had not declined the position. The labor and inconvenience were, however, in a measure compensated for by the ideals and inspiration derived from association with the editors, the several publication committees, councils, and others who have taken an active part in the work of the State Medical Society the last twelve years during which period these same officials and colleagues have in my opinion initiated numerous movements which have resulted in far reaching service to the citizens of this state.

In conclusion, I desire to state that my contact with the recently appointed Managing Editor and Secretary during the last few months convinces me that the time spent in securing a satisfactory full time editor and secretary has been full justified by the selection made, and I bespeak for him the active cooperation of all officers and members of the Society.

Very truly yours,

J. B. McMAHON.

JPM*LS

May 9, 1923.

Dr. J. P. McMahon,
Wells Building,
Milwaukee, Wis.

My dear Dr. McMahon:

The audit of the accounts of the Wisconsin Medical Journal for a period from August 1st, 1919 to April 1st, 1923, at hand. Also, check for $2,690.88, being the amount of cash in bank, and check for $29.50 as reim-

bursement for commissions received by you. The audit and checks are being transferred to Mr. J. G. Crownhart, Executive Secretary of the State Medical Society of Wisconsin.

I am taking the privilege of sending to the Journal for publication, your outline and summary of the auditor's report, rather than the report itself. I am doing this because your reports are much more enlightening and explanatory than the auditor's report made up largely of figures. Furthermore, the latter would take up too much valuable space in the Journal. The report of the auditor will, of course, be on file in the office of the Executive Secretary, Camp Bldg., and open to inspection to all members.

For the work you are doing, time expended and time utilized as managing editor of the Journal, I know that a word or two of commendation and appreciation is due although it seems to me almost unnecessary. All those privileged of having been in close contact with you and your work on the Journal have never failed to recognize the sacrifice you are making, that you have been justified in your ideals and that you have done a good deal more than your share has never been questioned. You must be satisfied, however, in the knowledge that, in spite of the strain and your other increasing work, that what the management has had to contend with in recent years your office has been able to keep the Journal up to its very high commercial standard.

Again, the fact that your office has handled more than $78,000 during your incumbency and this without bond must be a very definite indication of the responsibility and confidence vested in you by the members of the medical profession of the Wisconsin Journal and co-workers on the Journal, in particular.

Again, my dear Dr. McMahon, as Chairman of the Publication Comittee, I wish to express to you the most sincere thanks and appreciation of the entire State Medical Society of Wisconsin and believe me to be,

Yours very sincerely,

OSCAR LOTZ, M. D., Ch'm'n,
Publication Committee,
Wisconsin Medical Journal.

*cjk

Wisconsin State Medical Society.

Gentlemen:

The Beloit Physicians and Surgeons Club, at a regular session on April 6, 1923, unanimously passed the following resolution, to-wit:

WHEREAS, Dr. A. N. Baer and Dr. Samuel G. Higgins, of Milwaukee, Wisconsin, during the week of March 12th to March 17th, appeared in the Circuit Court of Rock County, Wisconsin, as witnesses for the plaintiff in an alleged malpractice suit against Dr. J. Clyde Smith and Dr. T. F. Shinnick, of Beloit, Wisconsin, and

WHEREAS, said Milwaukee doctors showed a great interest in the prosecution of said suit, and apparently acted as advisers and assistants to the plaintiff's attorney, and

WHEREAS, the information received by this organization indicates that the methods used by said Milwaukee doctors in obtaining information pertaining to said case, especially with reference to the questions as to what constituted good practice in Rock County, were unprofessional and unethical, and

WHEREAS, a portion of the dues paid by the individual members of the Beloit Physicians and Surgeons Club to the Wisconsin State Medical Society is for the purpose of protection against malpractice suits,

NOW THEREFORE, it is resolved by the Beloit Physicians and Surgeons Club that it is the sense of this organization, that it is unprofessional for doctors who are called as expert witnesses in the trial of a malpractice case, to take other than an impartial interest in such case; that we protest against the conduct of said Doctors Baer and Higgins, in the case above mentioned; and that we respectfully request that a copy of this resolution be published in the Wisconsin State Medical Journal.

C. H. SCHRAM, M. D.,
President.

A. S. RUNDELL, M. D.,
Secretary.

April 14, 1923.

To the Editor of
The Wisconsin State Medical Journal.

Dear Sir:

We have received a copy of the resolutions adopted by the Beloit Physicians and Surgeons Club, of April 6, 1923, and submit the following statements of our position in the matter.

When approached in this case we first made sure that it was no case of blackmail; the testimony that had been taken showed convincingly that it was a case where it was not only the right, but the duty of physicians to testify. We made our appearance in the case conditional on the assurance that before proceeding an effort would be made to settle the case out of court. This effort was made on our part. We consulted other members of the Wisconsin State Medical Society as to the propriety and ethics of appearing in such a case. The attending physician was and is now a member of the State Medical Society. We deny other than an impartial interest in the case, and we further deny that any unprofessional and unethical methods were used in obtaining information with reference as to what constituted good practice in Rock County.

The whole matter is based upon and should be based upon the question as to whether or not physicians should be criticized for at any time, in any case appearing as expert witnesses in court in behalf of plaintiff when action is brought against another physician or surgeon, based upon alleged malpractice. The action of the Beloit Physicians and Surgeons Club is virtually denying the propriety and right of the physician to tes-

tify in malpractice cases. It is clear there can be no real issue as the physicians did not and could not question the conscientiousness or the truthfulness of our testimony. They cannot take the position that this is a special case, so weak that is should not have been brought, because: first, they settled the case after three days taking testimony, and second, because the sworn statements of the physicians who are the defendants themselves and also the public records make it one of the plainest and strongest cases that could be brought against the defendants.

The position that the medical profession, or some of its members, are putting themselves in, by their attitude in this case, and the effect it is going to have on the opinion of the public of the medical profession, and also the effect it is going to have on the medical profession, and the effect it is going to have on meritorious defenses made by doctors and based upon testimony of their own members are matters for the profession to consider. Certainly, it will affect adversely the members as a whole, and the individual members thereof, to have this policy adopted or in any way approved of. If the legal profession and the public also through the publicity attracted by the letters submitted to you, learn that the profession as a whole approve of the attitude taken by the Beloit Physicians and Surgeons Club and of their conduct in this particular case, we think the profession will regret that such approval had been given. It is hard to believe that any number of our profession would take the position they have done. It seems so contrary to the duty of men as citizens and also so unwise from a selfish standpoint.

Respectfully yours,

DR. ALFRED N. BAER,
DR. S. G. HIGGINS.

PHYSICIANS AND SURGEONS CLUB

Beloit, Wisconsin.

OFFICERS:

C. F. N. Schram.
J. W. Keithley.
J. Clyde Smith.
H. M. Helm.

Whereas, The members of the Beloit Physicians and Surgeons Club recognizing the growing tendency of certain lawyers and law firms to stimulate the laity to engage in malpractice suits, their only active being an avaricious one, and

Furthermore, This club being familiar with the fine and commendable stand the vast majority of lawyers and law firms take to suppress such a growing evil, with a possible financial loss to themselves, but doing so out of professional pride and ethics only;

Therefore, We commend such stand and offer our individual and collective support to such ethical lawyers and firms at all times and shall ever be ready to aid them in the defense of such cases.

We also further wish to thank Mr. Oestrich of the firm of Jeffris Moust, Oestrich, Avery & Wood and Mr. Arthur Doe of the firm of Quarles, Spence & Quarles, for the able and satisfactory manner in which they conducted the recent trials in the defense of our members.

Be it resolved that our secretary be instructed to send a copy of these resolutions to Mr. Oestrich and to Mr. Doe, and to forward a duplicate copy to the insurance companies which they represent.

NEWS ITEMS AND PERSONALS

Upwards of fifty Wisconsin physicians, members of the Tri-State Medical Society visited clinics and hospitals in the East during April on a special tour arranged by that society. A special train accommodated the two hundred and fifty making the trip.

Dr. T. H. Shastid, Superior, has received the degree of Fellow in the American College of Surgeons.

Architects' plans have been completed for the $250,000 clinic building to be erected by the Jackson Clinic of Madison. The building will replace the present structure.

One hundred years of medical service is the record of the family of Dr. George Young of Elkhorn. Beginning practice in 1823, Dr. Young continued until his death in 1891, his son, Dr. G. H. Young, taking up the practice in 1881. Now Dr. J. H. Young, in partnership with his father, represents the third generation.

Over 1,000 citizens of Beloit have petitioned their Council for the establishment of a Municipal Hospital. In presenting the petition Mr. T. D. Woolsey declared that "the hospital problem is ahead of anything else before the community today."

Dr. F. C. Liefert, West Allis, was fined $50 in district court recently for failure to report a birth.

Dr. Philip Fox, Sr., has returned to his Madison home following the sale of property in Oregon. A Civil War veteran, Dr. Fox is well known throughout the state. He retired from active practice a few years ago after serving for over fifty years.

Dr. D. J. Hayes, Milwaukee, has returned from a two months cruise in South America. He was a member of a party of College surgeons.

Dr. Reginald Jackson, Madison, has returned from a two weeks' houseboat party in southern waters where he was the guest of Dr. E. S. Judd, Rochester.

A bequest of $43,000 has been announced by the Burlington Memorial Hospital. The gift was made by the late Richard Leach, a prominent farmer. Plans call for a $65,000 building.

Appeal to the Supreme Court has been taken by Dr. A. M. Foster, Racine, whose license was recently revoked. The court also revoked the licenses of Drs. F. L. Fancher and W. G. Wheeler. The charge was unprofessional conduct.

Only upon a certificate signed by a physician may a barber afflicted with a veneral disease continue his work. This rule was adopted at the last meeting of the State Board of Health.

Dr. Gustavus I. Hogue, Milwaukee, sailed on the Majestic, May 12, for Barcelona, Spain, there to observe and study Professor Ignacio Barraquer's operation for cataract.

Mired in a swamp after making a call, Dr. Frank Gregory, 70, Valders, escaped in an exhausted state after a three hour struggle. Dr. Gregory attempted to use a swamp road, the only one available, when the horse became mired, necessitating the long battle through ice and water to reach the nearest farm house.

Desks of five physicians have been ransacked and prescription books stolen during the past month. In each case, the physician being absent from the office, permission was asked to write a note at the desk as a blind for the theft. Those who have lost books are Drs. John Moeller, Milwaukee; L. A. Baerman, Kenosha; F. P. Marshall, D. J. Twohig, and A. J. Pullen, Fond du Lac; and E. J. Welke of Madison.

Dr. Albert C. Jenner, Milwaukee, is resting in California following a major operation.

His automobile struck by a street car, Dr. George W. Lueck, LaCrosse, was seriously injured. He sustained a fracture of the upper left arm and possible internal injuries.

The Methodist Hospital of Madison has announced that they will not press their claim for $500,000 against the estate of the late Justice R. D. Marshall. The claim had been formally filed when the association announced that in deference to the wishes of Mrs. Marshall, the claim would not be prosecuted.

Mistaken for a burglar, Dale Donovan, 19, Watertown, was shot and killed by Dr. F. C. Haney. Dr. Haney was exonerated by a coroner's jury who returned a verdict of "justifiable homicide."

Dr. F. E. Tryon is health officer for Baraboo following the organization of a board of health in that city.

A gentleman burglar gave Dr. W. M. Pugh, Kenosha, a pleasant surprise when he returned by mail bonds to the value of $3,000 stolen after breaking a window to obtain entrance to the house.

"We might be willing to class him as a perfect gentleman," said the doctor, "if he had come around and mended the kitchen window."

A. S. Burdick, president of the Abbott Laboratories, has been elected president of the American Drug Manufacturers' association.

Drs. H. E. Purcell, P. H. Fox, and Robert Burns, Madison, have announced the merging of their clienteles. They will occupy a suite of rooms in the First Central bank building.

After five months spent in hunting big game in Alaska and British Columbia, Dr. A. T. Holbrook returned to Milwaukee this month.

MARRIAGES

Miss Catherine Schmitt, Fox Point, to Dr. William M. Jermain, Milwaukee, on Tuesday, April 22.

Miss Mary A. Lewis, Harrisburg, Pa., to Dr. Lenard P. Fox, formerly of Fond du Lac. Dr. Fox is now research director of the state chamber of commerce at Harrisburg, Pa.

LEGAL NOTES

There is pending a case in the Supreme Court which may determine the right of physicians to practice in the semi-public hospitals. The case arose in LaCrosse. A Lutheran hospital, supported in part by public charity, has under its rules a medical staff. The staff is intended to embrace all the duly qualified physicians of the city, members of the State Medical Society.

Two such physicians who had been members of the staff were suddenly denied admittance with a patient and no reason given. They are seeking a writ of mandamus from the high court to compel the hospital to receive their patients and to re-admit them to practice in the hospital. Decision is expected in June.

Chiropractors have the privilege of entering houses placarded for the purposes of giving treatment, under an opinion of the Attorney General to A. L. Devos, district attorney of Clark county.

"As long as the house has not been quarantined, and is simply placarded," says the opinion, "there is no objection for a chiropractor treating his patient inside of such residence, so long as he does not violate any statute of this state."

Osteopaths licensed to practice osteopathy alone are not entitled to a permit under the Harrison Narcotic law according to Attorney General H. L. Ekern in an opinion to Dr. J. M. Dodd. The opinion states that only an osteopath who is licensed to practice osteopathy and surgery is entitled to a permit under the Harrison law.

"In licensing persons to practice both osteopathy and surgery, it must be held," says Mr. Ekern, "that the intent of the legislature was to bestow upon such parties the right to practice surgery in addition to osteopathy, and to use every drug or instrument that is necessary to successfully practice modern surgery. I am of the opinion, therefore, that a person who is licensed to practice osteopathy and surgery in this state is entitled to a permit under the Harrison Narcotic Law."

Alleging publication of libelous matter Dr. G. H. Sherman, Detroit, has filed a $1,600,000 suit against Paul H. DeKruif, W. R. Hearst, and others. The article referred to was entitled "Vaccines for Broken Legs" appearing in the December issue of Hearst's Magazine.

Osteopaths cannot be prosecuted for failing to report cases of contagious disease. While physicians and surgeons are required to make such reports, Att. Gen. Ekern in an opinion to Dr. J. M. Dodd, Ashland, held that osteopaths were exempt under the law.

NOTICE.

The Salt Lake County Medical Society is arranging for the entertainment of visitors who may be able to stop over enroute, either going to or coming from the meeting at San Francisco. The stopover here can be made inexpensive. Our Society has already appointed committees to greet and assist in making arrangements to see the city and, if possible, some of the surrounding territory, which may include wonderful mountain drives; a visit to Saltair, which is situated on Great Salt Lake; and a visit to the great copper mines in this vicinity.

Large parties intending to make this stopover are requested to give us notice as far in advance as possible as to the number in party and length of time of stopover. Any inquiries relative to this matter may be directed to Secretary Dr. Floyd F. Hatch, Desert Bank Building, Salt Lake City, Utah.

April 16, 1923.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C.....July 9, 1923
At Chicago, Illinois.....July 9, 1923
At San Francisco, Calif.....July 9, 1923

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

H. S. CUMMING,
Surgeon General.

THE RELIEF OF PAIN IN HERPES ZOSTER BY PARAFFIN

A colleague who had suffered from a very severe attack of thoracic herpes zoster suggested the use of an occlusive dressing of paraffin to Howard Fox, New York, (*Journal A. M. A.*, Dec. 9, 1922), and he has followed the procedure in twenty selected cases. The method was reserved solely for those patients who were suffering from pain severe enough seriously to interfere with sleep. Experience soon revealed the fact that the best results were obtained by a daily application of the paraffin, it seldom being necessary to continue the treatment for more than a week. In even the severest cases, the application of the paraffin gave almost immediate relief and were regularly followed by more or less freedom from pain for twenty-four hours and by a complete night's rest. The most convincing proof of the efficacy of this treatment was shown by patients who had obtained complete relief from pain, but who for some reason or other had not returned for several days, during which time the pain had returned. By further treatment, the pain was again promptly relieved. The technic of treatment consisted simply of spraying the melted paraffin with an atomizer on all of the cutaneous lesions and covering such areas with a generous layer of absorbent cotton, held in place by bandages. In a few cases, the paraffin was applied by cottom swabs, an equally efficient, although slower and less convenient, method. When fresh applications were made, the previous layer of paraffin was gently removed. The form of paraffin used was parresine.

LESIONS OF THE PARATRIGEMINAL AREA.

Loyal E. Davis, Chicago (*Journal A. M. A.*, Feb. 10, 1923) asserts that many instances are on record of involvement of the sympathetic fibers in the spinal canal and in the neck, due to trauma, or pharyngeal or cervical gland tumors. These cases are characterized by excessive sweating and other vasomotor phenomena on the affected side, in addition to the presence of Horner's syndrome. The cases reported by Davis lacked these symptoms and other symptoms of spinal or cervical pathologic changes, which led him to believe that the sympathetic fibers surrounding the external carotid artery were intact and the lesion, consequently, was within the cranium. Likewise, tumors originating within the gasserian ganglion have been reported wherein the surrounding structures have been involved by an extension of the growth. The previous cited cases involved the trigeminal nerve incompletely, and the involvement was secondary to pathologic conditions originating elsewhere in the paratrigeminal area. Attention is directed to two syndromes of the paratrigeminal area: The one characterized by paralysis of the sympathetic fibers passing from the carotid plexus, plus pain in the trigeminal area, of which Davis saw two examples; the other characterized by pain in the trigeminal area plus paralysis of the oculomotor nerve.

THE JOURNAL BOOK SHELF

NEW BOOKS WORTH WHILE

The Heart in Modern Practice. By Wm. D. Reid, M. D. Illustrated. 1923. Philadelphia. J. B. Lippincott Co.

Nutrition of Mother and Child. By C. W. Moore, M. D. Illustrated. 1923. Philadelphia. J. B. Lippincott Co. $2.50.

Labyrinth & Equilibrium. By Samuel S. Maxwell, M. S., Ph. D. 1923. J. B. Lippincott Co., Philadelphia. $2.50.

Essentials of Surgery. By Archibald L. McDonald, M. D. Illustrated. 1923. J. B. Lippincott Co., Philadelphia. $2.50.

Physics and Chemistry for Nurses. By A. R. Bliss, M. D., and A. H. Olive, A. M. Illustrated. 1923. Philadelphia. J. B. Lippincott Co. $2.50.

How We Resist Disease. By Jean Broadhurst, Ph. D. Illustrated. 1923. Philadelphia. J. B. Lippincott Co. $2.50.

Nursery Guide. By Louis W. Sauer. Illustrated. 1923. St. Louis. C. V. Mosby Co. $1.75.

How to Eat in Health and Disease. By Benjamin Harron, Ph. D. Illustrated. 1923. New York. E. P. Dutton & Co.

The Omnipotent Self. By Paul Bousfield, M. R. C. S. 1923 New York. E. P. Dutton & Co.

Textbook of Pediatrics. Edited by Prof. E. Feer. Translated and edited by Julius Parker Sedgwick, B. S., M. D., and Carl Ahrendt Scherer, M. C., F. A. O. P. J. P. Lippincott & Co., Philadelphia.

Feeding Diet and the General Care of Children. By Albert J. Bell, A. B., M. D. F. A. Davis Co., Philadelphia.

Enlargement of the Prostate. By John B. Deaver, M. D. Second edition. 142 illustrations. P. Blakiston's Son & Co., Philadelphia. 1923.

Hypnotism and Suggestion. By Louis Satow. Dodd, Meade & Co., New York. 1923. Price, $3.00.

A History of Magic and Experimental Science. By Lynn Thorndike. 2 volumes. The Macmillan Co., New York. 1923. Price, $10.00.

Outwitting Our Nerves. By Josephine A. Jackson, M. D., and Helen M. Salisbury. The Century Co., New York. 1922.

Montaigne and Medicine. By James Spottiswoode Taylor. Paul B. Hoeber, New York. 1923. Price $3.75.

The New Psychology and the Teacher. By H. Crighton Miller. Thos. Seltzer, New York. 1922. Price $1.60.

American Nerves and the Secret of Suggestion. By Anne Sturges Duryea. The Century Co., New York. 1923. Price $1.75.

The History of Human Marriage. By Prof. Edw. Westermarck, Ph.D., LL.D. 3 volumes. Fifth edition, rewritten. The Allerton Book Co., New York. 1922.

Lincoln—An Account of His Personal Life. By Nathaniel W. Stephenson. The Bobbs-Merril Co., Indianapolis. 1923. Price $3.00.

The Maturity of James Whitcomb Riley. By Marcus Dickey. The Bobbs-Merril Co., Indianapolis. 1923. Price $4.00.

The Indiscretions of Lady Susan. By Lady Susan Townley. D. Appleton & Co., New York. 1922. Price $5.00.

The Letters of Franklin K. Lane. Edited by Anne Wintermute Lane. Houghton, Mifflin Co., Boston. 1922. Price $5.00.

The Life nnd Letters of Walter H. Page. By Burton J. Hendrick. In 2 volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

Woodrow Wilson and the World Settlement. By Ray Stannard Baker. In 2 volumes. Doubleday, Page & Co., New York. 1922. Per set, $10.00.

Fantasia of the Unconscious. By D. H. Lawrence. Thomas Seltzer, New York. 1922. Price $2.25.

The Convalescents. By Charles F. Nirdlinger. The Century Co., New York. 1923. Price $1.75.

In the Wake of the Buccaneers. By A. Hyatt Verrill. The Century Co., New York. 1923. Price $4.00.

The Physiology of Reproduction. By F. H. A. Marshall, D. Sc. Illustrated. 2nd edition. 770 pp. Longmans, Green & Co., New York. 1922. Price, $12.00.

BOOK REVIEWS

The Medical Clinics of North America. (Issued Serially, one number every other month). Volume VI, Number 5, March, 1923. By Ann Arbor Internists. Octavo of 273 pages and 22 illustrations. Per clinic year (July, 1922 to May, 1923). Paper $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

The Surgical Clinics of North America. (Issued serially, one number every other month). Volume III, Number 1 (Philadelphia Number, February, 1923) 300 pages with 105 illustrations. Per Clinic year (February, 1923 to December, 1923.) Paper, $12.00 net; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

Nutrition of Mother and Child. By C. W. Moore, M. D. Illustrated. 1923. J. B. Lippincott & Co., Philadelphia. $2.50.

The important discoveries in nutrition made during the past five years have revolutionized our ideas of dietetics. This volume presents the facts of nutrition which have been accepted by schools of accredited standing everywhere. The book lays particular emphasis on the newer conception of breast feeding, the building up

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of breast milk, vitamins and the mineral content of the diet. Nothing is included which has not been tested and proven of practical value in personal experience. The volume is written in simple straight-forward English and as untechnical as is feasible in the presentation of scientific facts. It is so arranged that it may be employed by nurses and social workers for instruction of mothers in the homes and in conducting short courses in nutrition.

Labyrinth and Equilibrium. By Samuel S. Maxwell, M. S., Ph. D. 1923. J. B. Lippincott & Co., Philadelphia. $2.50.

The aim of this book is to present an objective study of the equilibrial reactions of vertebrate animals and the mechanism through which these reactions are produced. Discussions of the possible subjective sensations in connection with labyrinthine excitation, and of clinical applications of the facts are both outside the scope of the book. The ears of fishes have proved to be in many ways the most favorable objects for these investigations. The author's experiments on the functions of the different portions of the labyrinth, especially of the otoliths, were possible only because of the large size and the accessibility of the structures concerned. For these reasons the contents of the book is devoted largely to the description of the experiments on the ears of selachians and the statement of conclusions which may be reached from these experiments.

Essentials of Surgery. By Archibald L. McDonald, M. D. Illustrated. 1923. J. B. Lippincott & Co., Philadelphia. $2.50.

This book covers the general principles of surgical diseases and the pathological changes which result. Also, under separate headings, the more important surgical lesions of the body are considered. The matter is presented simply, and only general statements are made concerning:

1. Etiology, casual factors.

2. Pathology, local tissue changes produced, and general effects.

3. Natural course of the disease and spontaneous attempts to control the condition, also factors influencing the prognosis.

4. Indications for treatment, and the general principles which are to be considered. No attempt is made to discuss technical nursing methods, except special indications for their use.

It measures up to the splendid standard of all of the series of Lippincott Nursing Manuals.

Physics and Chemistry for Nurses. By A. R. Bliss, M. D., and A. H. Olive, A. M. Illustrated. 1923. J. B. Lippincott & Co., Philadelphia. $2.50.

This well-known book has been entirely rewritten and in new form. So arranged that chemistry and physics can be separately taught within the twenty hours of THE STANDARD CURRICULUM, or they can be taught together or more time devoted to each subject with this book as your text-book. In the consideration and discussion of scientific facts and theories, simplicity and lucidity have been the aim, but with a reasonable degree of fullness necessary to a serviceable conception of the subject. Suitable laboratory work of practical value is included.

How We Resist Disease. An introduction to immunity by Jean Broadhurst, Ph. D. Illustrated. 1923. J. B. Lippincott Co., Philadelphia. $2.50.

The most successful attempt yet made to cover briefly the almost limitless field of immunity. It is planned to meet the needs of beginners, more particularly nurses and general college students who have time but for a simple brief course in bacteriology. The glossary defining over one hundred of the more technical terms insures the usability of the volume by the intelligent layman.

Each chapter begins with a tabulated outline, presenting to the student at a glance the main topics included in each chapter and the interrelationships of those topics.

Study suggestions are given at the end of each chapter, with memory or review questions.

This book is an *introduction*—a *simplified* text on immunity and not merely an abbreviated one.

Nursery Guide. By Louis W. Sauer. Illustrated. 1923. St. Louis. C. V. Mosby Co. $1.75.

This little vade mecum, written for mothers and nurses, gives in clear, concise form all essential details in the care and feeding of infants. Unlike other books it does not give hazardous feeding formulas and prescriptions. It tells how to care for the infant in health and in disease. The subject matter is coherent and systematically arranged. The illustrations are timely.

What to Eat in Health and Disease. By Benjamin Harron, Ph. D. Illustrated. 1923. E. P. Dutton & Co., New York.

A Guide for those who want to know what to eat and *why!*

A non-technical and yet strictly scientific résumé of our knowledge of foods and feeding, including all the more important facts which have been established, and the principal theories advanced during the last few years.

A chapter on the physiology and anatomy of the digestive tube is included.

The Table of Contents includes: Some Common Foods; The Planning of Meals; The Nursing Mother; Infant Feeding; Vegetarianism; Overweight and Underweight; Constipation; Diseases Due to Faulty Diet; Diet in Digestive Disorders; Diet in Common Diseases.

It is a very good work.

The Omnipotent Self. A study in self deception and cure by Paul Bousfield, M. R. C. S. 1923. E. P. Dutton & Co., New York.

This book deals with psycho-analysis in an important aspect where its attention is not concentrated on sexual

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The Riverside Sanitarium

SHOREWOOD, MILWAUKEE, WISCONSIN
For General Medical Cases and Nervous Diseases

NO INSANE ACCEPTED

A purely medical, non-surgical institution combining Hospital and Sanitarium features

IDEAL location, quiet and restful surroundings. Every modern appurtenance for scientific diagnosis, and treatment. Open to the Medical Profession with every facility to direct and control personal treatment under same conditions as obtained in General Hospital.

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A. I. ROSENBERGER, M. D., Res. Physician

emotions. It deals with the "selfish" or "self-assertive" side of character. This it traces from its origin at birth, and even before birth, along various paths to its culmination in "self-deception." From this state arise many results, impatience, weeping, worry, jealousy, alcoholism, and drug-taking, which are all carefully examined.

It then proceeds to show how these symptoms and troubles can be treated. It explains the use of an intensely important method of self-analysis and a new method of auto-suggestion.

The merits of the book are both theoretical and practical. As a coherent theory of the influence of a "selfishness" complex on the whole character it marks a further development in the new psychology.

The Heart in Modern Practice. By Wm. D. Reid, M. D. Illustrated. 1923. Philadelphia. J. B. Lippincott Co.

This book incorporates the best of the new knowledge with that which may be said to have stood the test of time.

It is brief enough to be attractive to those whose opportunity to read upon a single aspect of medicine is limited.

It is uniquely arranged to present heart disease according to its etiologic types, rather than by anatomical lesions which may be common to various types of heart affections. The new classification is from an etiological, a functional, and a structural viewpoint.

The action of syphilis on the heart is described in a single chapter, instead of in one place for aortic insufficiency, in another for the myocardial changes, etc., thus bringing together all of the data pertaining to one subject in one place.

Functional ability of the heart is determined by the condition of the myocardium, rather than by the valves, and its importance is emphasized.

Digitalis and the method of giving it in relation to the patient's body weight, etc., is fully detailed.

Quinidine Sulphate and its therapeutic use is fully described.

The use of electrocardiograph and polygraph are elucidated, but not allowed to crowd out the non-instrumental methods of diagnosis.

The case histories are from the author's practice, and are fully detailed.

It is fully illustrated, and the tracings were made by the author in the Heart Laboratory of the Boston City Hospital. It is an excellent work on the subject.

PROTEIN SENSITIZATION.

A diagnostic and prophylactic study was made by A. G. Gould, Ithaca, N. Y. (*Journal A. M. A.*, Feb. 10, 1923), of the majority of male students with histories of hay-fever, asthma, eczema or recurring urticaria, at Cornell University. An attempt was made to diagnose these cases by means of allergic reactions to pollen, epidermal, food or bacterial proteins, and to desensitize the students by subcutaneous injections of the offending protein or by having them avoid the offending protein or proteins. In the hay-fever cases, hypodermic injections were made at five-day intervals with the specific pollen protein extracts, in dilutions of 1: 10,000, 1: 5,000, 1: 1,000, 1: 500 and 1: 100. The injections were begun approximately seventy-five days before the expected onset of the hay-fever season. The amounts injected were: 1: 10,000: 0.1, 0.2, 0.3 c.c.; 1: 5,000: 0.2, 0.3, 0.4 c.c.; 1: 1,000: 0.2, 0.3, 0.4 c.c.; 1: 500: 0.2, 0.3, 0.4 c.c.; 1: 100: 1 minim, increased by 1 minim every five days until 5 minims have been given at one time. Of the patients, 12.5 per cent. received 100 per cent. relief; 38 per cent., between 75 and 95 per cent. relief; 31 per cent., between 50 and 74 per cent.; 12.5 per cent., between 20 and 49 per cent., and 6 per cent., little or no relief. Of the seven asthma patients, 55 per cent. received entire relief from the asthma by prophylaxis and improved personal hygiene. Fifteen cases of eczema and recurring urticaria were studied through the reaction to food protein extracts. A new cutaneous reaction to food protein extracts seen in eczema cases occurs at the site of the cutaneous test and shows itself usually within one-half hour. The appearance is as if the upper layer of epidermis has been removed, leaving a reddish abraded surface, which exudes minute droplets of serum. In some ways, it looks like a minute area of weeping eczema. The lesion does not heal for several days and then becomes covered with the characteristic scab of all abraded surfaces. Gould has not seen mention of this type in the literature of protein desensitization. Those patients reacting to foods that were very easily abstained from quickly responded and were soon relieved of the eczema. Those who reacted to foods, such as wheat, milk and egg, would improve for a short time and then relapse, probably because of some dietary indiscretion.

THE USE OF CREATININ AS A TEST OF RENAL FUNCTION.

The creatinin used by Ralph H. Major, Kansas City, Kan. (*Journal A. M. A.*, Feb. 10, 1923), in these studies, came from two sources: urine and a by-product obtained in the manufacture of meat juice. Identical results were obtained from the three samples of creatinin. In normal persons and in patients suffering from various diseases with no renal lesions, the intravenous injection of 0.5 gm. of creatinin was followed by an increased excretion in one hour amounting to three times that excreted during the hour preceding injection. The total excretion at the end of two hours amounted to five times that of the preinjection hour. In chronic nephritis, the kidney fails to respond in this manner, and in the cases studied this increase has been less than 50 per cent. In a number of these patients, no increase at all was seen.

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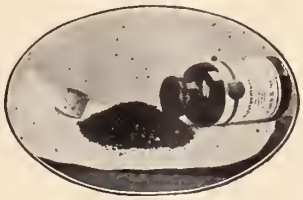
EFFICACIOUS bactericidal agents for prophylaxis and the treatment of infections of the mucous membranes of the eye, nose and throat, and genito-urinary tract.

THEY are almost completely free from the inorganic impurities responsible for excessive irritation.

THEY are non-hygroscopic under ordinary climatic conditions, and are practically permanent in air. They are not precipitated from their solutions by sodium chloride, albumin or urine. Their solutions are relatively more stable.

SOLARGENTUM SQUIBB

contains approximately 20% of pure metallic silver in colloidal form. Its solutions are non-irritating in all strengths, relatively stable, and without appreciable astringency. Valuable wherever a non-astringent, non-irritating silver preparation is indicated.



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contains approximately 8% of silver as an organic silver salt in colloidal form. It is indicated where a more powerful bactericidal and astringent form of silver is desired. It is used in from 2% to 10% solutions.

Complete information upon request.

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THE EARLY TREATMENT OF CANCER.

The cancer problem of a community is not how many operative cures have been reported from various surgical centers, but how late cases receive treatment, and the results of treatment, in that particular community. With this point in view, an exhibit was attempted bearing on the treatment of the disease at Harper Hospital, as a cross section of an average situation. As there were no figures of final three or five year cures, data were compiled for some of the commoner cancers, showing the percentage of total admissions for cancer in which radical treatment at the time of operation could be given, and how many patients survived operation; that is, the number of patients in whom treatment offered a chance of cure. A rough estimate of cures could then be made, based on the reports from the Mayo Clinic of the percentage of resections in which patients remained cured five years. Figures were also available regarding the length of time symptoms were noted, and from these some of the difficulties of early diagnosis can be discussed. The data reported by Harry C. Saltzstein, Detroit (*Journal A. M. A.*, Feb. 17, 1923), are from Harper Hospital records, for the years 1918-1921, and are presented arranged for stomach, colon, rectum and breast. In the group of cases analyzed, probable cures did not exceed 1.5 per cent. of total hospital admissions for stomach cancer; 6 per cent. for colon, and 6 per cent. for rectum. In 80 per cent. of breast cases there was already involvement of the axilla, with the probable prognosis of from 15 to 25 per cent. of cures. Early rather than classical symptoms must be stressed in considering gastro-intestinal cancer, if cases are to be seen earlier. As it is more difficult to diagnose gastro-intestinal cancer, it is likewise more difficult for the public to respond to warnings for gastro-intestinal cancer than for external growths. Ten per cent. of the patients examined at several different clinics in response to cancer week publicity had cancer. Another 12 or 13 per cent. had pre-cancerous lesions.

DIAGNOSIS AND RELIEF OF STERILITY.

In further attempts to find evidence of pathologic changes in the pelvis in women who fail to become pregnant, Arthur H. Curtis, Chicago (*Journal A. M. A.*, Feb. 10, 1923), searched for minor tubal lesions. A study of fallopian tubes removed from a series of 300 patients revealed that tubes without evident gross alteration, or at the most presenting only slight adhesions, quite often are crippled by healed inflamamtory changes of the mucous membrane. Such lesions within the tubes easily escape detection in the operating room; palpable thickening may be wanting, and probing of the tube is a gross procedure at best. During the last two years, when it has been necessary to open the abdomen of sterile patients, Curtis has employed Luer syringe air inflation of apparently patent fallopian tubes. Under favorable circumstances, this simple procedure is helpful in several ways; it reveals the presence of otherwise undemonstrable obstructions within the tube; minor strictures, when discovered, may be overcome by forcible syringe pressure; the anatomic limitations of grossly palpable obstruction, possibly amenable to plastic operation, may be more definitely determined, and, at the completion of plastic operations on the tube, it is possible to test the patency of the reconstructed lumen.

SUDDEN DEATH IN SCARLET FEVER.

During a period of nine years (1913-1921), 2,322 patients with scarlet fever were treated at the Durand Hospital, with a total mortality of eighty-five, or 3.7 per cent. In two instances, death occurred suddenly and unexpectedly with only slight premonitory signs, and when each patient appeared to be on the road to convalescence. These two cases are reported in detail by T. F. Krauss, Chicago (*Journal A. M. A.*, Feb. 17, 1923). The virus or toxins of scarlet fever seem to have an especially deleterious effect on the heart in some cases, as Welch and Shamberg point out. In those reported by Gouget and Deschaux, by Weil and Mouriquand, and also in the author's, direct action on the myocardium is apparent. Broadbent is inclined to believe that it has its action on the heart ganglions. No evidence was found in the author's case to bear out this view. Since grave myocardial lesions may not be apparent clinically, and since in many of these cases death has followed some slight physical exertion, it would seem that absolute rest in bed is indicated in all cases of scarlet fever, especially during the acute stages, and more particularly in those in which one may suspect myocardial lesions.

SOME COMPARATIVE RESULTS IN CITIES AND IN COUNTIES AS HEALTH UNITS.

The fundamental principles involved in the prevention of typhoid fever, A. J. Warren, Topeka, Kan. (*Journal A. M. A.*, July 29, 1922), says, are the same for the country as for the city, and they are the same the country over. The same is true of smallpox, diphtheria, infant mortality and other diseases concerning which we have fairly accurate knowledge. The only difference is in the practical application of the fundamentals involved to the given area. And even here differences are apparent only in the execution of the details, and are not general. Natural factors also favor the country dweller, and the present conditions are a reproach to our lack of efforts and intelligence. An effort was made to determine the relative cost of, and effectiveness of, public health work in urban and in rural communities. A survey covering three cities and nine counties, all having well organized health departments, was undertaken. The evidence submitted proves, conclusively, nothing. It does, however, suggest that the charge that rural health work is more expensive and difficult than urban health work needs modification, if not a complete withdrawal.

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THERAPEUTIC NOTES

EFFECTIVE IODINE THERAPY

A striking innovation in iodine therapy has been the introduction of compounds of iodine with proteins. The advocates of these organic combinations assert that they are less irritating to the digestive tract and less inclined to set up the disagreeable symptoms of iodism —such symptoms, for instance, as coryza and skin eruptions.

Iodalbin is one of the later iodine compounds intended for internal use. It is a compound of iodine and blood albumin, containing approximately 21.5 per cent. of iodine. When administered by the mouth Iodalbin suffers little change in the acid contents of the stomach, but on passing into the intestine it is dissolved by contact with the alkaline secretions and on absorption exerts a physiologic action similar to that of the soluble iodides.

One great advantage possessed by Iodalbin is the fact that it is insoluble in the acid gastric contents. There is consequently less possibility of the distressing symptoms which so frequently follow the soluble iodides. Its blandness makes it acceptable to sensitive patients, and it is especially gratifying to those who object to the taste and nauseating effect of sodium or potassium iodide.

Iodalbin is manufactured by Parke, Davis & Company, whose advertisement appears elsewhere in this issue, and who offer to send descriptive literature to inquiring physicians.

AN EMERGENCY REMEDY

When the heart fails suddenly, as in shock, collapse, or anaphylaxis, the physician stands in need of a heart tonic that will act at once and that can be administered hypodermically. There is probably nothing in the whole materia medica that will serve him so well in such an emergency as Adrenalin (P. D. & Co.).

Of almost equal urgency is the condition of the asthmatic patient when the attack comes on; and the rapidity with which Adrenalin acts in these cases has made it indispensable throughout the medical world.

Persistent gastric hemorrhage makes the same sort of demand upon the physician; and here too Adrenalin, acting directly on the neurovascular tissues, stanches the bleeding almost instantly. In other forms of hemorrhage it is often useful also.

Adrenalin, we are told, is accurately standardized on animals, its effect upon the blood-vessels being demonstrated by the administration of as small an amount as 1/6000 grain.

Adrenalin is a Parke-Davis product, having been introduced to the medical profession by that house in 1901.

A NEW LOCAL ANESTHETIC.

From time to time new anesthetics to take the place of cocaine have been proposed, and to some extent used, but without utterly supplanting the older and rather dangerous drug. Now, however, the surgeon has a substitute that is a decided improvement. The new local anesthetic is called Butyn (pronounced *Bute-in*, with the accent on the first syllable). It is the discovery of Professors Roger Adams and Oliver Kamm of the University of Illinois and Dr. E. H. Volwiler of the Abbott Laboratories, Chicago.

The anesthetic has been passed by the Council on Pharmacy and Chemistry, of the American Medical Association. In his report, Dr. A. E. Bulson, Jr., for the Committee on Local Anesthesia, Section of Ophthalmology, said that it acts more rapidly than cocaine and its action is more prolonged. Less is required, and in the quantity necessary it is less toxic than cocaine. It has other advantages which make it highly useful, especially for eye work. A solution can be boiled without impairing its efficiency.

The Abbott Laboratories is supplying Butyn, in tablets (with and without Epinephrin) and 2% solutions, which may be had without narcotic blanks.

IODALBIN.

The iodides have held their ground in professional esteem not because but in spite of the attitude of the patient toward them. They are disagreeable to take, and yet in many cases prolonged courses of treatment are necessary. An iodine compound that does not dissolve in the stomach, and is therefore without irritating effect upon that organ, is marketed by Parke, Davis & Co., under the name of Iodalbin—an albuminate or protein compound of iodine.

Iodalbin contains about 22 per cent of iodine in organic combination—not a large proportion as compared with the iodides, and yet the dose is about the same, for the reason, as stated by the manufacturers, that the iodine in Iodalbin remains in the tissues, accomplishing its therapeutic mission, much longer than the iodine in inorganic combinations.

Iodalbin is put up as a powder in ounce vials and in 5-grain capsules.

ADRENALIN AND P. D. & CO.

Up to 1900 the medical profession had to be content with extracts and other preparations of the suprarenal gland that contained, besides what was wanted, a good deal of inert and possibly irritating material.

One manufacturing house at least was engaged in making a discovery—the isolation of the active principle of the suprarenal gland, or, if it is not quite accurate to speak of it as "the active principle," the pressor or blood-pressure-raising principle of the gland. For it was known that such a principle was contained somewhere in the gland substance, from the observed effect of aqueous solutions of suprarenal extracts; and it was this principle in pure form that was wanted.

Physicians need not now be told that the manufacturing house alluded to (Parke, Davis & Co.) was successful in its quest, for Adrenalin, the pressor principle sought, has been in use by the profession since 1901.

INVEST IN
First Mortgages on Wisconsin Farms
5% to 7%

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Farms in Milwaukee, Waukesha, Washington, Ozaukee, Sheboygan, Dodge, Fond du Lac, Door, Grant and Brown Counties.

LOOK AT THE FARM BEFORE INVESTING

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Interest and Principal collected Promptly (and without charge) and mailed to investor **on due date.**

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No loan over half of the reasonable value of the farm.

B. C. ZIEGLER & CO.,
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Select an Investment from these First Mortgages

Loan No.	Amount	Size of Farm	Value of Farm	Value of Buildings
1052	3,500.00	155 Acres	30,000.00	12,000.00
1050	2,100.00	80 Acres	14,000.00	7,000.00
1002	8,000.00	142 Acres	20,000.00	10,000.00
996	1,000.00	80 Acres	10,000.00	5,000.00
1015	14,000.00	180 Acres	35,000.00	12,000.00
1013	9,500.00	100 Acres	22,000.00	9,000.00
1010	6,000.00	100 Acres	20,000.00	10,000.00
1003	7,000.00	100 Acres	20,000.00	8,000.00
1010-1	500.00	100 Acres	20,000.00	7,500.00
1018	2,500.00	80 Acres	15,000.00	7,500.00
1020	14,000.00	479 Acres	50,000.00	12,000.00
1021	4,500.00	100 Acres	18,000.00	8,000.00
1008	2,000.00	100 Acres	18,000.00	8,000.00
1003-1	500.00	100 Acres	18,000.00	8,000.00
1017	8,800.00	140 Acres	25,000.00	10,000.00
1052	7,500.00	160 Acres	19,000.00	8,000.00
1025	7,500.00	160 Acres	20,000.00	7,500.00
1090	11,500.00	120 Acres	24,000.00	9,000.00
1055	5,000.00	100 Acres	16,000.00	7,000.00
1030	6,500.00	120 Acres	16,000.00	6,000.00
1003-3	1,000.00	100 Acres	19,000.00	7,000.00
997-1	2,500.00	160 Acres	24,000.00	8,000.00
1030-2	1,000.00	120 Acres	17,000.00	7,000.00
1028	500.00	150 Acres	25,000.00	10,000.00

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THERAPEUTIC NOTES

HAY FEVER.

The desensitization treatment of hay fever patients is now in full swing, for the annual August datings have not been canceled. However, there are procrastinators and unbelievers in this domain of experiment, as in all others. There will be plenty of hay fever this year, notwithstanding the endorsement of the pollen extract desensitization treatment (prophylactic) by Dr. Scheppegrell, President of the American Association for the Prevention of Hay Fever (who has just written a book on the subject), and others. These patients are not altogether at the mercy of the ragweed, however, for it is possible to mitigate their condition by the application of ointments, inhalants or sprays.

The nasal mucosa is disorganized, relaxed, weeping, as a result of the pollen bombardment. It can be toned up to a material degree of resistance and independence by the use of Adrenalin (P. D. & Co.) in spray, inhalant or ointment form. When a comparatively weak solution is used in spraying, no reaction follows, and the applications may be repeated as often as desired without risk of toxic effect. Ointments and inhalants of Adrenalin are rather more convenient to use than the spray, though not so prompt in their effect. They contain Adrenalin 1:1000, and it is the gradual release of the adrenalin that prevents a too pronounced astringent effect when they are applied.

LITERATURE OF INTRAVENOUS MEDICATION.

In a recent issue of a prominent medical journal, there appeared a paragraph deploring the scarcity of literature on the subject of Intravenous Medication. The writer was probably prompted by the increased interest manifested in the subject.

It will be of interest for every practitioner to know that an attempt has been made to compile interesting information on the subject by the New York Intravenous Laboratory, producers of Loeser's Intravenous Solutions. A "Journal of Intravenous Therapy" has been published, which contains probably the best accumulation of clinical and laboratory data pertaining to intravenous medication. A copy of this interesting journal can be obtained by addressing, Journal of Intravenous Therapy, 100 West Twenty-first street, New York City.

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SAFE HYPNOSIS.

When the physician finds it necessary to prescribe a hypnotic, two questions occur to him: Is it safe? Will it induce a drug habit? If safe, it will put the patient to sleep without risk of immediate or subsequent reaction involving pain or injury of any kind. If non-habit-forming it may be administered as often as the condition of the patient requires, or discontinued at any time without any more inconvenience to the patient than if it had never been taken.

These conditions are said to be perfectly fulfilled in Chloretone, a Parke, Davis & Co., product, which acts upon the dentritic processes in the brain, relaxing them so that both sensory and motor impulses are inhibited. This effect disappears gradually without, apparently, any more alteration in the functions of the nerve filaments than that which follows the sleep of ordinary fatigue.

Chloretone is given for its hypnotic effect in a dose of 5 grains, to be repeated, if necessary, in half an hour, and at this interval, in exceptional cases, up to 20 or 25 grains. It is indicated in the insomnia of excitement, in sthenic cases only.

AN EMERGENCY REMEDY

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INTEREST AND PRINCIPAL COLLECTED FREE
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TYPICAL LOANS

Loan No. 1043—$12,000 due 1925

Two farms of 100 acres each secure this loan of $12,000. The two farms are today worth $40,000 cash. Each is wonderfully equipped, well fenced and well drained. $20,000 fire insurance with mortgage.

Loan No. 1049—$8,000 due 1927

A wonderful prairie farm of 262 acres secures this First Mortgage. Every foot of the land is under plow. Buildings include three barns, two residences, two hog houses, granary and machine sheds. The farm is assessed at $32,000. When the new house is completed, the farm will be worth $50,000 cash.

Loan No. 1052—$500 due 1925

A farm of 100 acres near West Bend secured this First Mortgage. The place is worth around $15,000 and this loan constitutes the only debt against it.

Loan No. 1042—$5,000 due 1927

A nearby farm of 100 acres worth $15,000 is the security for this First Mortgage. All of the land under plow, buildings are very good, the soil is good and the man is good.

Loan No. 1038—$1,000 due 1927

The best 120-acre farm in the county is given as security for this First Mortgage. All of the land is under plow except 3 acres in timber. Buildings are modern, new and complete. The owner is a thrifty dairy man. The farm is worth above $20,000 cash today.

Loan No. 1025—$1,500 due 1927

A grain and dairy farm of 160 acres secures this First Mortgage. The farm is worth $15,000. 80 acres is very good plow land and the remaining 80 acres is in timber. Buildings are very fine and the farm is on a patrol road.

Every Investor Has Always Received His Interest and Principal on Time

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Organized 1902
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THERAPEUTIC NOTES

ANTITOXIN AND TOXIN-ANTITOXIN.

The most important feature of products of this class is the accuracy with which they are standardized. Fortunately, both the diphtheria antitoxin and the prophylactic mixture admit of accurate standardization. The U. S. Public Health Service has fixed the toxin standard, and the antitoxin is standardized by being administered to test animals with the toxin in accurately graded amounts. Some of the animals die and some survive; and there is no element of chance in the test, for the animals themselves are standardized—by weight and otherwise.

Evidently the profession has no means of gauging the reliability of a diphtheria antitoxin or of a toxin-antitoxin mixture offered for sale except the reputation of the laboratory producing it. Even previous experience is not a reliable guide, for unless successive lots are uniform it signifies nothing. The label is a printed guaranty of quality, the value of which depends entirely upon the good name of the house whose signature it bears. Manifestly the physician must take the manufacturer's word for it. Hence the advisability of specifying on orders a producer that stands high in the confidence of physicians on general grounds—whose products as a whole bear the hallmark of quality.

Both Antitoxin and Toxin-Antitoxin are referred to in the advertisement of Parke, Davis & Co., appearing elsewhere in this issue.

FROM THE SALICYLATES TO CINCHOPHEN.

The salicylates have had their day. One by one, those who have been prescribing them in years past are turning to Cinchophen. And they are wise to do so. For clearly Cinchophen is the better drug in many cases of acute rheumatism and other painful conditions.

Precisely how it acts within the body is still a question. But we do know that neither the salicylates nor any other drug so sharply increases the elimination of uric acid. A decided increase is obvious in the voidings and can be demonstrated easily by urine tests.

Simultaneously, in a rheumatic person, the subjective symptoms disappear or, if persistent, become less troublesome. A pleasing fact to note is that Cinchophen is less irritating to the kidneys than the salicylates. Albuminaria occurs but seldom; when it does it is not nearly so severe.

The Abbott Laboratories, Chicago, announce lower prices for Cinchophen, which is well seeing that the drug is so useful. The same firm is also making Neo-cinchophen.

ACRIFLAVINE.

This drug continues to attract users, the verdict of whom is that it is a valuable new asset in genito-urinary practice. It appears to terminate an attack of gonorrhea in less time than other germicides employed by injection or irrigation. Presumably this is due to its exceptional penetrability.

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AMERICAN SYNTHETICS.

The Fordney-McCumber Tariff Bill, recently passed by Congress, unfortunately does not provide sufficient protection for American-made medicinal chemicals, nor does it compensate for the extensive research work which has been done by American chemists.

The rates on medicinal chemicals were passed over the protest of the medical profession. It is now possible for the physicians to follow up their protest by using only American-made synthetics, and referring to them, at all times, by their American names, as suggested by the Council on Pharmacy and Chemistry of the American Medical Association.

Among the important American-made medicinals which should receive the support of all American doctors, are Arsphenamine, Barbital, Cinchophen and Procaine. Literature on these products may be obtained by writing to The Abbott Laboratories, Chicago.

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THERAPEUTIC NOTES

IMPORTANT ANNOUNCEMENT.

The medical profession everywhere will be interested in the announcement that the Abbott Laboratories of Chicago have purchased the Dermatological research Laboratories of Philadelphia. This is an advance step for the Abbott Laboratories and will give them deserved recognition among the leading manufacturers of medicinal products.

It will be remembered the Dermatological Research Laboratories were the first in the United States to produce Arsphenamine during the war when there was such a scarcity of this article; and these Laboratories became well known to the medical profession for their patriotic attitude in developing and manufacturing medicinal preparations in this country.

By this purchase of the "DRI" products, the Abbott Laboratories inherited their prestige.

The Abbott Laboratories acquired control of the Dermatological Research Institute on November 1st; and are continuing to operate them in Philadelphia under the direction of Dr. Geo. W. Raiziss, head of the department of Chemistry and his corps of specially trained assistants. Orders for "DRI" products will be promptly filled from the Philadelphia Laboratories or from the home office of the Abbott Laboratories, Chicago, or by any of their branches or distributors. For further information regarding their purchase of the Dermatological Research Laboratories the readers of this Journal are referred to the statement of the Abbott Laboratories on another page of this issue, entitled, "*Important Announcement to the Medical Profession.*"

FROM THE SALICYLATES TO CINCHOPHEN.

The salicylates have had their day. One by one, those who have been prescribing them in years past are turning to Cinchophen. And they are wise to do so. For clearly Cinchophen is the better drug in many cases of acute rheumatism and other painful conditions.

Precisely how it acts within the body is still a question. But we do know that neither the salicylates nor any other drug so sharply increases the elimination of uric acid. A decided increase is obvious in the voidings and can be demonstrated easily by urine tests.

Simultaneously, in a rheumatic person, the subjective symptoms disappear or, if persistent, become less troublesome. A pleasing fact to note is that Cinchophen is less irritating to the kidneys than the salicylates. Albuminaria occurs but seldom; when it does it is not nearly so severe.

The Abbott Laboratories, Chicago, announce lower prices for Cinchophen, which is well seeing that the drug is so useful. The same firm is also making Neocinchophen.

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THERAPEUTIC NOTES

LITERATURE OF INTRAVENOUS MEDICATION.

In a recent issue of a prominent medical journal, there appeared a paragraph deploring the scarcity of literature on the subject of Intravenous Medication. The writer was probably prompted by the increased interest manifested in the subject.

It will be of interest for every practitioner to know that an attempt has been made to compile interesting information on the subject by the New York Intravenous Laboratory, producers of Loeser's Intravenous Solutions. A "Journal of Intravenous Therapy" has been published, which contains probably the best accumulation of clinical and laboratory data pertaining to intravenous medication. A copy of this interesting journal can be obtained by addressing, JOURNAL of INTRAVENOUS THERAPY, 100 West 21st Street, New York City.

TOO MANY DIPHTHERIA PATIENTS DIE.

Why should there be any diphtheria mortality at all? Antitoxin is to this disease what water is to fire. The answer to the question is, therefore, that the antitoxin is not given soon enough or in sufficient quantity. Fire does not spread more surely or more rapidly among combustible materials than diphtheria in the tissues of the child attacked. The one supreme necessity is to head it off—put it out. A dose of 5000 units of antitoxin may or may not suffice. This dose should be the minimum; and it is far better to give 10,000 or 20,000 units in one dose than in two.

Nature is helpless in many of these cases; her defensive forces are simply overwhelmed by the poison of the disease. Give the patient a full dose, a liberal dose, of antitoxin, and as many as may be required; arrest the poisoning process; and then nature, relieved, rallies her phagocytic forces and destroys the invading bacilli.

The mortality of diphtheria in this country, according to the Parke, Davis & Co. advertisement elsewhere in this issue, is 10 per cent. One patient out of ten dies. Save the tenth child!

IN THE INTEREST OF ACTIVE IMMUNITY.

Diphtheria can be prevented as surely as smallpox or typhoid fever. And by the same means—the use of a modified specific toxin. In the case of diphtheria the modification is effected by mixing the toxin with antitoxin. The toxin is first standardized to a degree of accuracy that rivals the inerrancy of a chemical reaction; and the antitoxin is standardized in units (both by official processes). This modified toxin (called toxin-antitoxin) does not produce any of the symptoms of diphtheria, but nevertheless it stimulates the body cells to produce antitoxin; and *this* antitoxin, unlike that introduced into the blood from without, remains a part of the patient's equipment and protection indefinitely—for several years at least, and perhaps for life.

All children between six months and six years should be immunized with toxin-antitoxin; others, if shown to be Schick-negative, need not be. Parke, Davis & Co. have an interesting reprint on this subject which they would doubtless send to any inquiring physician.

THE NEW HOME OF HYNSON, WESTCOTT & DUNNING OF BALTIMORE.

This national drug firm has just erected and occupied its own building at Charles and Chase Streets, Baltimore. The building is artistic in appearance and adapted to accommodate the several departments of

their rapidly developing business which began in a small way in 1889, but has now grown to a million a year, with an organization of 125 people. Their unique sales department alone comprises 19 men who visit physicians in all parts of the United States, but do not sell goods. Thirty-five of their products have been accepted by the Council, and are advertised in this Journal. None of their preparations are offered direct to the public but are introduced to the medical profession for the use of physicians and their patients. Mr. H. P. Hynson, one of the founders, died in 1921; but their growing business has now been established in new quarters under the immediate supervision of Messrs. James W. Westcott and H. A. B. Dunning (the latter being the active administrator) with a highly trained force, equipped to meet promptly the demands of the medical profession anywhere and at all times.

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THERAPEUTIC NOTES

TARTAR EMETIC INTRAVENOUSLY.

In the entire history of therapeutics no drug has met with more prejudice than antimony potassium tartrate, known as tartar emetic. It is an indisputable fact, demonstrated by the profession, that tartar emetic can never be safely administered per os, as it proves a gastro intestinal irritant, excites nausea and depresses the heart and nervous system.

"The intravenous injection of antimony potassium tartrate," wrote Christopherson, "raises questions of considerable interest for the clinician." He asks how is it that so large a quantity of what we regard as a very potent and toxic drug may thus be introduced in the human body, when the maximum dose by mouth is so small. "The official V. D. dose of antimony potassium tartrate is 1/24 to 1/6 grain, but one may, with beneficial effect, inject into the vein at one dose, three grains, and repeat every other day for sixteen injections."

Tartar emetic is being extensively employed in the treatment of various tropical diseases, granuloma and even syphilis. Loeser has studied the toxicity of tartar emetic and has established biologic tests, pharmaceutical and chemical standards for an intravenous solution of tartar emetic.

Any physician desiring the literature on antimony potassium tartrate intravenously can obtain a considerable accumulation by writing the

NEW YORK INTRAVENOUS LABORATORY

100 West 21st Street, New York.

WELCOME ! ! !

On page 1932 of the December 2 issue of the *Journal of the American Medical Association* appears the long awaited announcement of the early appearance of a medical magazine for lay readers. Authorized by the 1922 House of Delegates and published by the Board of Trustees of the American Medical Association, this monthly magazine will be devoted to the development of individual and community health, based on the accumulated experience of generations of medical scientists in sickness prevention. In physical make-up the magazine will rival *Scribner's;* in literary excellence, the *Atlantic Monthly.* The world's best writers, both scientific and popular, will strive to present their discussions in brief and simple terms.

Many of us have dreamed for years of an opportunity to create for the mind of our intelligent public a medium for authoritative information on the altruistic phases of medical practice. OUR opportunity apparently is at hand. OUR organization, thoroughly democratic, creates this new magazine, and its initial success will depend on OUR contributions to its debut. On advertising page 17 of the December 2 JOURNAL, appears a special one dollar subscription open to Fellows of the Association. We trust that our members will promptly take advantage of this limited offer.

We respectfully suggest to our Board of Directors consideration of the advisability of recommending complimentary, on behalf of the Allegheny County Medical Society, this introductory subscription in the name of the Allegheny County headquarters of each Public Health Agency and the Superintendent of each grade school in this county.

Let us prepare a warm welcome for "Hygeia," a Journal of Individual and Community Health, founded and published by the American Medical Association.—(*Pittsburgh Medical Bulletin* [Official Journal of Allegheny County Medical Society], December, 1922.)

NAVY ADOPTS NEOARSPHENAMINE

The following letter of Rear Admiral E. R. Stitt, Medical Corps, United States Navy, was approved on August 17, 1922, by the Bureau of Medicine and Surgery, in charge of Rear Admiral W. C. Braisted, Washington, D. C., and published for the information of the medical officers of the United States Naval Service, in the U. S. Naval Medical Bulletin, October, 1922.

July 7, 1920.

To the Bureau of Medicine and Surgery:

"Subject: Recommendation that neoarsphenamine be substituted for arsphenamine in connection with use on board ships and at certain stations of the Navy.

"1. I would recommend that the use of arsphenamine be discontinued on board ships and of the Navy and in its place to substitute neoarsphenamine. This same recommendation would apply to stations and smaller hospitals.

"2. In the larger hospitals where facilities for the administration of arsphenamine are satisfactory, the choice between arsphenamine and neoarsphenamine should be left to the discretion of the commanding officer.

"3. This recommendation is made for the following reasons:

"(a) In discussing fully this matter with the director of the hygienic laboratory, he is of the opinion that most of the accidents attending the use of arsphenamine have been connected with errors in technic. In view of the simplicity of technic when using neoarsphenamine many untoward results would be eliminated.

"(b) In the clinic of the Brady Institute, neoarsphenamine is used exclusively and Doctor Young and his associates are unable to note any lessened therapeutic efficiency with this drug than when arsphenamine is used."

5% 5½% 6%

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THERAPEUTIC NOTES

THE DOCTOR SOFIE A. NORDHOFF-JUNG CANCER RESEARCH PRIZE.

Dr. Sofie A. Nordhoff-Jung of Washington, District of Columbia, United States of America, has founded an annual prize of five hundred dollars bearing the title of *"The Sofie A, Nordhoff-Jung Cancer Research Prize."* This prize is destined for the encouragement of researches in the etiology, prevention and treatment of cancer. It will be awarded by a commission, composed of members of the University of Munich, Bavaria, and be granted for the first time in December of the year nineteen hundred and twenty-three. The commission consists of professors Borst, Doederlein and Sauerbruch with Professor von Romberg as chairman. This body is empowered to elect successors. The award will be made as a recognition of the most conspicuous work in the world literature bearing on cancer research, done at a time antecedent to the allotment of the award. Though the prize will not be awarded on a competitive basis the commission invites all research workers in cancer to submit literature on this subject.

PITUITARY STANDARDIZATION.

Why standardize gland extracts when only the glands of healthy animals are used, and when, moreover, a definite routine is employed in the manufacture of the extracts so that only certain soluble substances are present in the finished product? Are not the normal glands altogether normal? Do they not yield a definite percentage of active principle?

The answer is that all animal glands are apt to vary in their content of active principle, since all are miniature laboratories engaged in meeting only the demands of the organism at the time.

Pituitary extract, called Pituitrin by the discoverers, Parke, Davis & Co., is assayed by two methods, one of which indicates its pressor (arterial tonic) power, the other its effect upon uterine tissue (its oxytocic activity). Being used principally in obstetric practice, the oxytocic test is considered very important, although oxytocic activity could be very reasonably inferred from a demonstration of the action of the extract on the unstripped muscle of the arteries.

Accuracy is absolutely essential in a drug so powerful and of such crucial importance as Pituitrin, and for this reason both tests are applied.

ADRENALIN

When the pressor principle of the suprarenal gland was first isolated it was called Adrenalin by the manufacturers who introduced it to the medical profession. The derivaton of the word is obvious—from the adrenal (or suprarenal) glands. And for several years after the product was made available commercially, it was reported upon in the medical press, both here and abroad, as Adrenalin.

In fact the full momentum of clinical observation with reference to the various applications of the pressor or blood-pressure-raising principle of the suprarenal gland was provided by means of Adrenalin, the Parke, Davis & Co. product. This fact is of some significance, even now, for two reasons: First, Adrenalin has always been standardized, we understand, by the blood-pressure method; second, all products of this class are subject to molecular changes which have a bearing on their activity, and long experience in manufacture has doubtless revealed not only the danger but also how to avoid it.

Adrenalin blanches the inflamed conjunctiva when applied in a dilution of 1 to 10,000; the blood-pressure of anesthetized dogs is materially increased by the intravenous administration of less than one six-thousandth of a grain. This phenomenally powerful drug is applied topically in solution to mucous membrane in non-infective inflammations of all kinds, including hay fever, administered subcutaneously in bronchial asthma, urticaria, serum anaphylaxis, and certain forms of hemorrhage, and given by vein in shock and collapse. The heart that has ceased beating has been known to respond to the direct application of Adrenalin.

Parke, Davis & Co. offer a booklet on Adrenalin to interested physicians.

VACCINE THERAPY.

Patients vary in their response to the antigenic stimulation supplied by bacterial vaccines; due allowance must be made for such variation when employing bacterial vaccines.

But the leading laboratories are exerting themselves to reduce the variations in the quality of bacterial vaccines to a minimum. At one time this seemed to be an easy matter, but with the application of more rigid tests it was found that bacteria could not be tagged by name; one culture might be actively antigenic, and another almost inert—both of the same organism, but from different strains.

The bacteriologist has found a more trustworthy method of standardizing vaccines than by count—though counting has not been discarded. He can now tell whether a vaccine is really antigenic or not—whether antibodies are developed in the blood in response to the injection of the vaccine.

New literature on some of the vaccines in most common use is offered by Parke, Davis & Co., whose announcement appears elsewhere in this issue.

"Endocrine and Other Organotherapeutic Preparations" is the title of a booklet just issued by Armour and Company. This pamphlet contains articles upon the products that the title covers. A copy of it will be mailed to any physician or pharmacist who asks for it.

ASSAYING RAW MATERIALS

Why Better Than Good?

SUPERIOR QUALITY in pharmaceutical manufacture has a deeper significance than in an ordinary industrial output. In a tool, *superior quality* insures a better job by the workman and a longer sustained efficiency; in furniture, superior quality gives longer wear, better appearance and a heightened pride of ownership.

In pharmaceuticals, *superior quality* may preserve life itself. It always means greater efficacy or potency in the prescribed medicine—the therapeutic effectiveness the prescriber intends.

Stinting on the elements of *quality* in pharmaceuticals—no matter how concealed the stinting may be—eventually manifests itself in the delicate chemical processes of the human organism.

Many raw drugs that are rated "good" fail to pass the critical analysis of the Milliken raw drug test department. They would make good pharmaceuticals—but they would not make *the best.*

They must be better than "good."

When you specify "Milliken" on prescriptions you are assured of the therapeutic potency of the ingredients. Our rigid control system makes that certain.

Your Druggist pays more for our pharmaceuticals because he knows you want just that.

JOHN T. MILLIKEN AND CO.

MANUFACTURING PHARMACISTS SINCE 1894

ST. LOUIS, U.S.A.

THERAPEUTIC NOTES

In commenting on the recent death in Egypt of Lord Carnarvon, who financed the excavation of Pharaoh Tutankhamen's tomb in the Valley of the Kings, Doctor Edsel A. Ruddiman, Chief Chemist of John T. Milliken & Company, Saint Louis, former Dean of the College of Pharmacy of Vanderbilt University, member of the Revision Committee of the United States Pharmacopoeia, and an authority on toxicology, expressed the opinion that it might have been caused from inorganic or organic poisons deposited in the mausoleum 3300 years ago.

While not subscribing to the theory that his death may have been the result of ancient precautions that should outlast thirty-three centuries and strike down the despoiler of the tomb of the ruler of the "Upper and Lower Lands," Doctor Ruddiman states that certain poisons, with which the ancient Egyptians may very well have been acquainted, probably would retain their potency through the ages.

"With the death of Lord Carnarvon, the old superstition that he who disturbs the body of a Pharaoh, must in turn suffer some dire calamity, is again brought into prominence," he said. "The opinion of any person is as good as that of another in deciding this question.

"It has been suggested that some poison may have been scattered or deposited in the tomb of Kink Tutankhamen at the time of burial. From a chemical point of view such a possibility is interesting. The question at once arises—Could any poison survive a period of 5000 years and retain its activity? So far as inorganic poisons (derived from mineral matter) are concerned the question is easily answered. There are some which would remain unchanged. Compounds of such elements as arsenic, mercury and antimony have remained in the earth ever since that part of the earth was formed and they are active when refined. Perhaps some of the rarer metals are more poisonous. That the Egyptians had a very high degree of knowledge of metals is shown by the amount and variety of articles taken from the tomb. It is not impossible that they had even a greater knowledge of certain toxic salts derived from metals than we have.

"While we cannot say that organic poisons (from living matter) will or will not retain their poisonous properties unchanged for centuries, we have good reasons to think that some of them might if kept dry. Heat and moisture are two factors which decompose organic matter, but with moisture absent the stability is insured for a very long time. As an example, strychnine, which is obtained from the nux vomica seeds, is one of the most stable poisons. Under conditions most favorable for decomposition it remained unchanged.

"We know, from reports, that Tutankhamen's tomb was very dry, and probably of a moderate temperature. We read that the oils in the funeral urns about the sarcophagus became viscous when taken out of the tomb. This leads to the belief that climatic conditions in the tomb were conducive to the preservation of organic matter.

"The Egyptians may have known of organic poisons of which we know absolutely nothing. What they know about organic chemistry is all conjecture. The history of poisons, however, far antedates the Christian era.

"While there is a possibility which enters Lord Carnarvon's system through the mosquito bite came from the tomb, the probability is that it did not. There is no record that any of the workmen suffered from a similar trouble, although they probably were in greater contact with the dust and very likely had greater abrasions of the skin through which the poison might enter.

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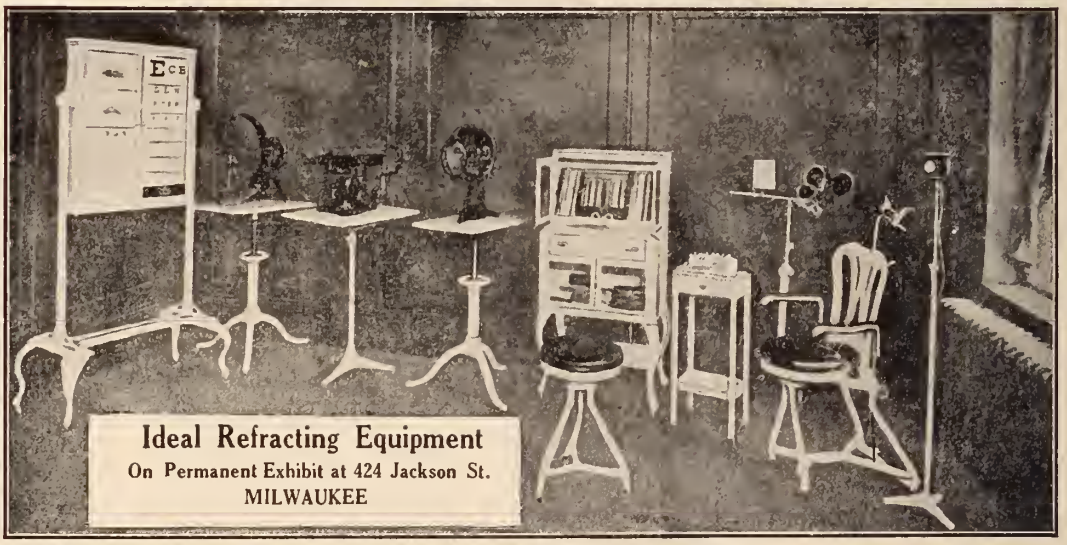

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